Personal Computer Model No. CF-53 Series Reference Manual

We recommend that this Reference Manual be printed.

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Introduction

This manual explains using the default setting.

For Windows 8.1 Update:

- Operations from the Start screen are explained.
- Screen messages are explained in [English (United States)].
  (Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode] may be displayed instead of [Airplane mode] in some language preference)

Illustrations and Terminology in this manual

“Windows® 8.1 Pro Update 64-bit” as “Windows” or “Windows 8.1”

Terms and illustrations in these instructions.

- ≪Fn≫ + ≪F7≫:
  This illustration means to press and hold ≪Fn≫ key, and then press ≪F7≫ key.
- Display “Charm”:

  Align the cursor to the top right (or bottom right) corner of the screen to display Charm menu.
  Alternatively:
  <Only for model with touchscreen>
  Flick toward the center of the screen from the right edge.
  (Displaying Charm menu)
- - :
  Click (Settings) and then click (Power).
- Some illustrations and display examples may look different from the actual product.

In these instructions, the names are referred as follows.

- The computer screen supporting touching methods (using stylus / your fingers) is referred to as the "screen".

Sound and Video

- **Sound (e.g. MP3, WMA) and video (e.g. MPG, WMV) recorded in SD Memory Cards may be interrupted during playback. If this happens, copy them to the hard disk drive and play back.**
- **Depending on the processing status on Windows, sound may be interrupted at Windows startup. You can mute the sound at startup.**
  The startup sound is muted as the factory default.
  1. Right-click the desktop screen, and click [Personalize] - [Sounds].
  2. Remove the check mark from [Play Windows Startup sound], and click [OK].

When high-frequency sound occurs

If high-frequency sound occurs around keyboard while using the computer, check the settings for the USB power saving function.

- **Set [USB selective suspend setting] to [Enabled].**
  1. Open the Control Panel, and then click [System and Security] - [Power Options].

     To open the Control Panel, perform either of the following procedures.
     - For the Desktop screen
       1. Right-click at the bottom left corner of the Desktop screen.
       2. Click [Control Panel].
     - For the Start screen
       1. Click on the Start screen.

<Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

2. Click [Control Panel] under "Windows System".

2. Click [Change plan settings] of the current power plan.
3. Click [Change advanced power settings].
4. In [Advanced settings], double-click [USB settings].
5. Double-click the displayed [USB selective suspend setting].
6. Change settings of [On battery] and [Plugged in] to [Enabled].
7. Click [OK] and exit the "Advanced settings" screen.

Windows Update

You can update to the latest patches and service packs for Windows with the following menus.

1. **Display “Charm”, and click - [Change PC Settings] - [Update and recovery] - [Windows Update].**
2. **Click [Check now].**

Do not apply "Driver Updates" even if a message to update a driver appears. If a driver update is required, contact your technical support office.

Regarding Windows 8.1 Update

Displaying Apps

On the Start screen, proceed as follows.

1. **Click .**

<Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

Opening the Control Panel

<Only for model with touchscreenh> Alternatively, flick from the middle of the screen to the top.

To open the Control Panel, perform either of the following procedures.

- **For the Desktop screen**

1. Right-click at the bottom left corner of the Desktop screen.
2. Click [Control Panel].

- **For the Start screen**

1. Click on the Start screen.

<Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

2. Click [Control Panel] under "Windows System".

Notification area

The notification area is available on the desktop screen.
To switch to the desktop screen from the Start screen, click the [Desktop] tile.

Opening the PC Settings

Display Charm, and click - [Change PC settings]. To display the top menu of “PC Settings”, click .

Useful functions of the Touch Pad

In addition to clicking and dragging, you can use the following functions with the Touch Pad.

- **Vertical scroll**

  Trace the Touch Pad vertically with two fingers.
  Or place one finger on the right side of the Touch Pad and slide finger in the desired direction of scrolling and begin making a circular motion.

- **Horizontal scroll**

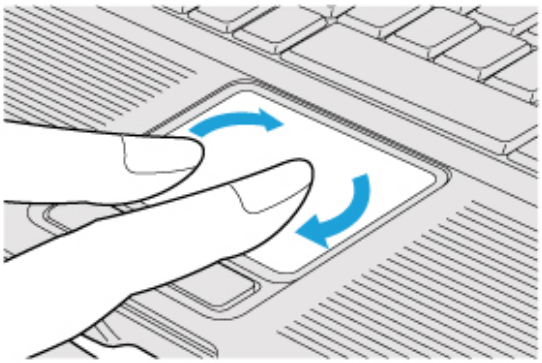
  Trace the Touch Pad horizontally with two fingers.
  Or place one finger on the lower edge of the Touch Pad and slide finger in the desired direction of scrolling and begin making a circular motion.

- **Sliding pictures**

  Trace the Touch Pad horizontally with three fingers.

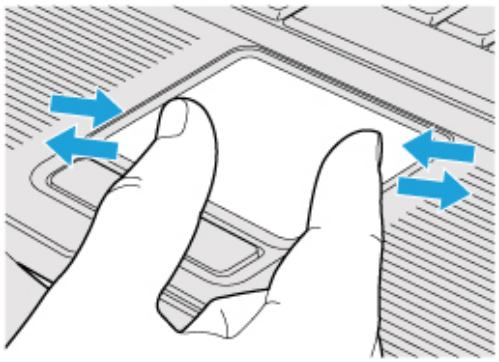
- **Picture rotation**

  Fix one finger on the Touch Pad, and slide the other finger to write a circle like a compass.



- **Picture zoom-out/zoom-in**

  Place two fingers slightly separated on the Touch Pad. Slide both fingers, using a straight continuous motion, closer together to zoom-out. Slide both fingers farther apart to zoom-in.



- **Displaying Charm menu**

  Swipe your finger toward the center of the Touch Pad from the right edge.

- **Changing tasks**

  Swipe your finger toward the center of the Touch Pad from the left edge.

- **Displaying the app bar**

  Swipe your finger to the center of the Touch Pad from the top edge.

Key Combinations

NOTE

- Do not repeatedly press the keys in quick succession.
- Do not use the key combinations together with touch pad (external mouse), touchscreen (only for model with touchscreen) or other key operations.
- Do not use the key combinations before you log on to Windows. Wait until the drive indicator and the SD Memory Card status indicator turn off. On the Setup Utility screen, you can use the key combinations of ≪Fn≫ + ≪F1≫ and ≪Fn≫ + ≪F2≫. By using the key combinations of ≪Fn≫ + ≪F3≫, the display is switched between the internal LCD, simultaneous display and the external display.
- The key combinations may not work with some applications.
- The pop-up display shown in the table below appears after logging on to Windows. It may not appear in some application conditions.

Key	Function	Pop-up display
≪Fn≫ + ≪F1≫*1 ≪Fn≫ + ≪F2≫*1	**LCD brightness** (≪Fn≫ + ≪F1≫ = down / ≪Fn≫ + ≪F2≫ = up)	A slide bar appears.
≪Fn≫ + ≪F3≫	**Display mode switching** (Switching the display mode) When an external display (a projector etc.) is connected, you can change the display mode. 1. Press ≪Fn≫ + ≪F3≫. 2. Click the display mode. **CAUTION** ▪ **Do not press any keys until the display has finished switching.** ▪ **Do not use this function:** ● When playing motion video such as DVD or MPEG. ● When an external display is not connected. ● When showing a game screen such as pinball.	“Project” appears.
≪Fn≫ + ≪F4≫*1	**Speaker on/off**	A slide bar appears.
≪Fn≫ + ≪F5≫*1 ≪Fn≫ + ≪F6≫*1	**Volume** (≪Fn≫ + ≪F5≫ = down / ≪Fn≫ + ≪F6≫ = up) **NOTE** ▪ When fine-tuning the sound volume, press and hold ≪Fn≫, and press ≪F5≫ or ≪F6≫ intermittently. ▪ This does not work on speakers connected to the USB port.	A slide bar appears.
≪Fn≫ + ≪F7≫	**Activate sleep** (Entering/Resuming from Sleep or Hibernation)	

Key	Function	Pop-up display
≪Fn≫ + ≪F8≫*3	**Concealed Mode on/off** You can select on/off of LCD Backlight, LED, Sound*2, Wireless Radio and Fan. The camera indicator cannot be turned off. **NOTE** ▪ You have to set [Concealed Mode] to [Enabled] in Setup Utility. ▪ You can set the devices turned off in [Concealed Mode] with Setup Utility. ▪ If you press ≪Fn≫ + ≪F8≫ in succession, the Concealed Mode may not be switched. More than 4 seconds interval is necessary to switch on/off.	
≪Fn≫ + ≪F9≫	**Remaining battery power** (When the battery pack is inserted in the computer)	Checking the Remaining Battery Power
≪Fn≫ + ≪F10≫	**Activate hibernation** (Entering/Resuming from Sleep or Hibernation)	

*1 : These key combinations are disabled when [Concealed Mode] is enabled.
*2 : Even if [Sound] is set to [OFF] on the [Concealed Mode Configuration] menu, the sound volume setting of Windows does not show mute state. However, audio from the speaker is not heard.
*3 : You can also turn on/off the Concealed Mode by pressing ≪F8≫ or right ≪Alt≫. Change the [Trigger Key] setting in the submenu of [Concealed Mode Configuration] in the [Main] menu of the Setup Utility.

Hotkey Settings

You can make the following settings:

- **Fn key lock**
  When you press ≪Fn≫, the key is locked (pressed-down) until you press another key. Use this when pressing difficult key combinations.

1. **Start up the Hotkey Settings.**
   Start Dashboard for Panasonic PC (Dashboard for Panasonic PC), click [Basic], and then click [Launch] in the [Hotkey Setting] tile.
2. **Make the settings.**

[Use Fn key lock]

- When using an ≪Fn≫ key combination
  1. Press ≪Fn≫ once. (Locked)
  2. Press another key. (Lock released)
- When using successive ≪Fn≫ key combinations
  1. Press ≪Fn≫ twice. (Locked)
  2. Press another key.

  Fn key remains locked until you press ≪Fn≫ again.

[Notification]
[Make sounds when Fn key is pressed]
[Show status on screen]: Displays the Fn key status when on the notification area is clicked.

- : ≪Fn≫ is locked.
- : ≪Fn≫ is not locked.

[Display status bar while Fn Key is held down]
[Status bar position]: If you select [Top], the status bar will be displayed near upside of the computer.
If you select [Bottom], the status bar will be displayed near downside of the computer.

3. **Click [OK].**

NOTE

- **Alternatively, you can start up the Hotkey settings using the following steps.**
  Click on the Start screen, and then click [Hotkey Settings] under “Panasonic”.
- **You can have different settings for each user.**

Screen Input Operation

The screen of your computer allows you to perform the same operations as a mouse by touching its surface.

<Only for model with touchscreen>
You can use the touchscreen function to perform the same operation as the touch pad and mouse. Touch the screen surface with your finger or the stylus (included).

For further information, follow the steps below.

1. **Start Dashboard for Panasonic PC (** Dashboard for Panasonic PC**), click [System], and click [Change Settings] in the [Pen and Touch] tile.**
2. **Click [Flicks] - [Practice using flicks].**

Alternatively, you can proceed as follows.

Open the Control Panel, and then click [Hardware and Sound] - [Pen and Touch] - [Flicks] - [Practice using flicks].
To open the Control Panel, perform either of the following procedures.

- For the Desktop screen
  1. Right-click at the bottom left corner of the Desktop screen.
  2. Click [Control Panel].
- For the Start screen
  1. Click on the Start screen.

     <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
  2. Click [Control Panel] under "Windows System".

To operate right-click

- Touch and hold with the stylus or finger, and release it when a circle *1 surrounding the object appears.

  On the Start screen, a circle is not displayed by touch operation.

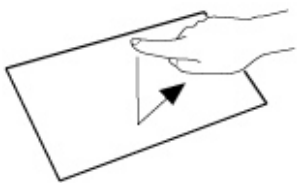
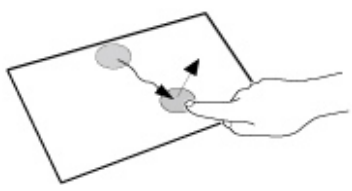
*1: When touching by your finger: a rectangle

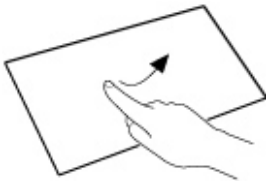
NOTE

- The touchscreen function does not work in the Setup Utility.

Operation by touching the screen

Instead of operating the screen with the pointer, you can use your fingers.

	Tap	Tap the screen once with one finger.
	Drag	Touch an object (file, icon, etc.) and drag your finger to the desired location before removing it to move the object.

	Swipe	Tap with a sweeping motion.
	Flick	Tap with a quick sweeping motion.

Touch the screen with the stylus (included) or your fingers

When touching the screen, use only the stylus (included) or your fingers on the surface.
Touching the screen with an object other than the stylus (included) or your fingertip (a fingernail or metal object, or other hard or sharp objects that may leave a mark) may scar or stain the surface, causing the malfunction.

Do not apply too much pressure when operating the screen

Only a light touch is required to operate the screen. Applying too much pressure may damage the surface.

Do not operate the computer when such things as dust are on the screen

Do not allow contact with substances that could dirty the screen, such as oil.

Handling the screen

Suggestions About Cleaning the LCD Surface

The screen is specially treated to prevent dirt from adhering to the surface. Also, to improve the outdoor visibility of the display, a low reflection coating has been added.
When removing the dirt on the screen surface, use only an approved soft cloth (included) in order to avoid scratches and peeling of the coating.
Before using the computer, be sure to read the instructions provided below.

- Be sure to wipe the LCD display to remove fingerprints, etc., with the soft cloth.
- The included soft cloth is designed for cleaning the LCD surface. Do not wipe areas other than the LCD display with it.

<How to use the soft cloth>

- Use the soft cloth when it is dry. Do not apply water or solvents to the soft cloth.
- First, lightly wipe foreign particles and dust adhering to the LCD display on one side of the soft cloth. Do not use force, since the LCD surface may be damaged with the foreign particles or dust.
  Next, wipe off fingerprint, etc., with the other side of the soft cloth.
  After wiping off foreign particles and dust, wash the soft cloth (refer to the following) to remove the foreign particles and dust from the soft cloth.
- When the soft cloth becomes dirty, wash it with neutral detergent. Do not use bleach or a fabric conditioner (softener), or carry out sterilization by boiling.
- If the LCD gets wet, wipe the surface lightly with the soft cloth.
- While wiping the LCD display, the computer must be turned off.

Clean the screen while the computer is powered off

Cleaning the screen while the power is on may cause the computer to malfunction. Also, dirt on the screen is easier to see when the computer is powered off, and so is easier to clean.

Wash the soft cloth when it becomes dirty

When the soft cloth becomes dirty, wash it with mild detergent. Do not use bleach or fabric conditioner (softener), or try to sterilize the cloth by boiling.
If the soft cloth is dirty, it may be ineffective in cleaning the screen, and in fact may cause dirt to adhere to the screen.

Check the following to prevent the surface of the screen from being scratched

- Are you using your fingers or the stylus (included) to operate the screen?
- Is the surface clean?
- Is the soft cloth clean?

- Are you using the stylus (included) with the tip extended?
- Is the tip of the stylus (included) clean?
- Are your fingers clean?

Things to keep in mind when using the screen

Do not apply strong pressure to the screen outside of the LCD display

Applying strong pressure to the screen outside of the display area may result in malfunctions or damage to the LCD screen.

Do not apply excessive force to the screen

Do not lift the computer while holding the LCD screen, or allow the screen to be twisted. Do not place any objects on the LCD screen. Any of the above may cause the screen glass to break, or may damage the LCD screen.

Operation response may be slower in low temperature environments

The screen may respond to operations more slowly when using the computer in temperatures less than 5 °C, but this is not a malfunction. Response time will return to normal when the computer is returned to room temperature.

If the pointer jumps to a location other than where the screen was touched, or if the LCD resolution changes, recalibrate the screen

Perform the procedure of “Calibrating the Screen”.

Handling the stylus (included)

Clean the stylus (included) tip and screen prior to operation

Foreign particles can scratch the screen and impede the operation of the stylus (included).

Use the stylus (included) only for the computer screen

Using it for any other purpose may damage the stylus (included) and scratch the screen.

Calibrating the Screen

<Only for model with touchscreen>

When you cannot point correctly with the stylus (included) or your fingers, calibrate the screen by following the steps below.
Perform the calibration as an administrator. A standard user needs to perform the calibration as an administrator before performing the calibration for each user.

NOTE

- At first, log on to Windows as an administrator, and perform this calibration.

1. **Start Dashboard for Panasonic PC (** Dashboard for Panasonic PC**), click [Basic], and then click [Change Settings] in the [Touch Calibration] tile.**

   The [Tablet PC Settings] window appears.
   Alternatively you can open "Tablet PC Settings" by the following procedure:

   Open the Control Panel, and then click [Hardware and Sound] - [Tablet PC Settings].
   To open the Control Panel, perform either of the following procedures.

   - For the Desktop screen

1. Right-click at the bottom left corner of the Desktop screen.
2. Click [Control Panel].

- For the Start screen

1. Click on the Start screen.

   <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

2. Click [Control Panel] under "Windows System".

2. **Click [Calibrate...].**
3. **Click [Pen input] for the stylus (included) or [Touch input] for your finger.**
   - If [User Account Control] is displayed, click [Yes].
4. **Using the stylus (included) or finger, touch each of the “+” target marks one by one, and then touch [Yes].**

CAUTION

- Perform calibration once as an administrator first. Standard users will not be able to perform calibration unless it is performed at least once by an administrator.
- If you perform calibration as a standard user, the calibration data is valid until you sign out. (The data becomes invalid after you have signed out.) When using the computer continuously, perform calibration as an administrator.

NOTE

- The following message, "Right-click anywhere on the screen to return to the last calibration point. Press the Esc button to close the tool." will appear on the center of the screen during calibration. However, the operation to close the tool by pressing the [Esc] key can be performed.

Hand Writing Utility

<Only for model with touchscreen>

You can make a bitmap file (.bmp) of a simple character and a figure such as signature by handwriting on the screen.

CAUTION

- If you install other pointing devices (e.g., commercially available mouse driver), Hand Writing Utility will not work.

NOTE

- **The display of Hand Writing Utility may be distorted if the number of display colors is changed. Click on the notification area and right-click , then click [Exit Hand Writing Utility], and then restart Hand Writing Utility.**

  The notification area is available on the desktop screen.
- **Hand Writing Utility may not work properly if another application software is active. In this case, close the application software and try handwriting again.**

Starting Hand Writing Utility

1. **Click on the notification area, and double-click .**

   The notification area is available on the desktop screen.

   Alternatively you can start Hand Writing Utility by the following procedure.

   Click on the Start screen, and then click [Hand Writing Utility] under “Panasonic”.

NOTE

- Select the image size before handwriting by clicking [Option] - [Window size]. If you change the size after handwriting, the image quality will become lower.
- You can copy the bitmap image by clicking [Edit] - [Copy], and paste it in another application software that supports bitmap format.

Dashboard for Panasonic PC

You can perform the following operations easily by using the Dashboard for Panasonic PC.

1. **Perform either of the following procedures.**

   - For the Desktop screen

     Double-click on the Desktop screen to open Dashboard for Panasonic PC.

   - For the Start screen

     Click the [Dashboard for Panasonic PC] tile.

   The screen to the above appears. The items (or "function tiles") displayed allow you configure various settings and launch applications.
   Function tiles that launch applications are referred to as "application launcher tiles".

   A. **System page**
   Includes function tiles for viewing and configuring hardware settings.

   - Function tiles cannot be added or deleted.

   B. **Basic page**
   Includes function tiles for launching applications and viewing and configuring hardware settings.

   - Function tiles for configuring settings cannot be added or modified.

   C. **Settings button**
   Configure access settings for each function tile and Dashboard function settings.

2. **Make the operation.**

   [Battery]
   Check the remaining battery power for the battery pack.
   The high temperature mode and normal temperature mode are indicated by icons.

   - Normal temperature mode :
   - High temperature mode :

   [Volume]
   Adjust the sound volume. Slide scroll bar to the right or left to increase or decrease volume respectively. To mute the sound, add a checkmark to [Mute].

   [Microphone]
   Adjust the microphone input level. Slide scroll bar to the right or left to increase or decrease the level respectively.
   To disable microphone input, add a checkmark to [Mute].

   [Camera] <Only for model with camera>
   Enable or disable the built-in camera.

When the camera is enabled, click [Disable] to disable it.
When the camera is disabled, click [Enable] to enable it.
If the camera is disabled by the Setup Utility, you cannot enable the camera by clicking [Enable].

[Pen and Touch]
<Only for model with touchscreen>
Change the stylus (included)/fingers operation mode as follows.

1. Click [Change settings].
   The [Pen and Touch] screen appears.
2. Select the action to change under [Pen action].
3. Click [Settings...].
4. Make changes on the screen that appears.
5. Click [OK], and then [OK].

[Resolution]
Set the screen resolution and screen orientation as follows.

1. Click [Change settings].
2. Change settings.
3. Click [OK].

[Brightness]
Adjust the LCD brightness.
Slide scroll bar to the right or left to increase or decrease the brightness respectively.

[Touch Calibration]
<Only for model with touchscreen>
Adjust the calibration for pen and touch inputs.
(Calibrating the Screen)

[PC Info Viewer]
(Checking the Computer's Usage Status)

[Hotkey Setting]
(Hotkey Settings)

[Battery Recalibration]
Launch Battery Recalibration.
(Correcting the Battery Display (Battery Recalibration))

[Power Plan EX]
Configure the power plan and Panasonic specific power saving functions.
(Customizing the Power Setting)

[GPS Viewer]
<Only for model with GPS>
Launch the GPS Viewer.

Moving Function Tiles

1. **Click and hold on the title portion of the function tile for several seconds.**
   An orange frame will appear around the function tile.
2. **Drag the function tile to any position.**

NOTE

- If another user modified the settings of a function tile, the position of the function tile may change.

Specifying Usable Functions on Dashboard for Panasonic PC

You can specify functions that can be used by standard users on the Dashboard for Panasonic PC.
Functions not specified will be dimmed and standard users will not be able to use these functions.

- An administrator must click [Change settings that are currently unavailable] to use these functions.

Log on to Windows as an administrator, and proceed as follows.

Changing function tile access settings

You can configure access settings for each function tile to prevent access by standard users.

1. Click the Settings button.
2. Click [Function Tile Usage Setting] in the [Dashboard Setting] screen.
3. If the [User Account Control] screen appears, click [Yes].
4. To disable access by standard users, remove the check mark from [Usable] for the function tile.

Changing settings for the Dashboard for Panasonic PC

You can configure display settings for the Dashboard for Panasonic PC.

1. Click the Settings button.
2. Click [Dashboard Function Setting].
3. Change the settings and click [OK].

Sleep or Hibernation Functions

Starting Up Your Computer Quickly

The sleep or hibernation functions allow you to shut off the computer without closing programs and documents. You can quickly return to the programs and documents that you were working on before sleep or hibernation.

Function	Data is saved to	Recovery time	Power supply
Sleep	Memory	Short	Required. (If power is not supplied, all data will be lost.)
Hibernation	Hard disk	Rather long	Not required. (However power is slightly consumed to keep the hibernation.)

Setting Sleep or Hibernation

Sleep

1. **Click or on the notification area, and click [More power options].**
   The notification area is available on the desktop screen.
2. **Click [Change plan settings] of the power plan you want to change.**
3. **Select the setting for [Put the computer to sleep], and then click [Save changes].**
   - The setting for hibernation may change unexpectedly when you change the setting for sleep. Confirm that the time to enter hibernation is 180 minutes (default setting) or longer (below).

Hibernation

1. **After the step 2 of "Sleep" setting (above), click [Change advanced power settings].**
2. **Double-click [Sleep], and double-click [Hibernate after].**
3. **Click the item and select the setting.**
4. **Click [OK].**

Precautions

- **Connect the AC adaptor if the computer will be in sleep for a long period of time. If you cannot use the AC adaptor, use hibernation instead.**
- **Using sleep or hibernation repeatedly may cause malfunction of the computer. To stabilize computer operation, restart Windows regularly (about once a week) without using sleep or hibernation.**
- **Save the necessary data.**
- **Close files you have opened from removable disks and network drives.**
- **Do not enter sleep or hibernation in the conditions below, otherwise the data or file may be corrupted, sleep or hibernation may not work, or malfunction may occur in the computer or the peripheral devices.**
  - When the extended desktop function is activated.
  - When any of the drive indicator or the SD Memory Card indicator is on.
  - When playing/recording audio files or displaying motion video such as MPEG files.
  - When playing a DVD-Video.
  - When writing to a disc.
  - When using communication software or network functions. (except for using wake up from wired LAN function)
  - When using peripheral devices.

If the computer fails to work normally, restart the computer.

- **The password you set in the Setup Utility will be requested upon resuming from hibernation (but not from sleep), if [Password On Resume] is set to [Enabled] in the [Security] menu of the Setup Utility. To disable it, set [Password On Resume] to [Disabled].**
  The [Password On Resume] setting is valid when you shut down the computer by displaying “Charm”, and then clicking - [Power] - [Shut down].
- **It may take 1 or 2 minutes to enter hibernation. Do not touch any key though the screen becomes dark.**

CAUTION

The following problems will occur when you fail the password input (failing three times or leaving the computer unattended for one minute or more) while resuming from sleep or hibernation.

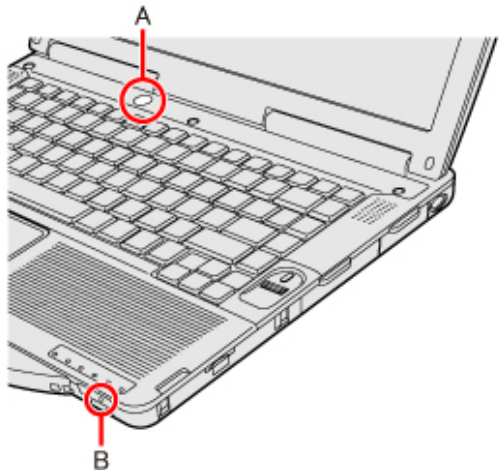
- **Failing the password input while resuming from hibernation:**
  - Cannot resume from hibernation by the Wake Up from wired LAN function, the Task Scheduler or the operation to open the display.

Entering/Resuming from Sleep or Hibernation

To enter sleep or hibernation

In order to enter sleep or hibernation by following procedure, change the power option settings first so that the [Power buttons and lid] operation is set to sleep or hibernation.(Setting Sleep or Hibernation)

1. **Close the display, or press the power switch (A).**
   Sleep: The power indicator (B) blinks green.
   Hibernation: The power indicator (B) goes off.



Alternative method

- You can alternatively use the Charm menu to enter sleep.
  1. Display “Charm”, and click - .
  2. Click [Sleep].

Hibernation from the Windows system menu is not available as the factory default.

You can also enter sleep or hibernation using ≪Fn≫.
(Key Combinations)

CAUTION

While the computer is entering sleep or hibernation

- **Do not:**
  - Touch the keyboard, touch pad, touchscreen (only for model with touchscreen) or power switch.

- Use an external mouse or other peripheral devices.
- Connect or disconnect the AC adaptor.
- Operate the wireless switch.
- Close or open the display
- Insert and remove the SD Memory Card.

Wait until the power indicator blinks green (sleep) or goes off (hibernation).

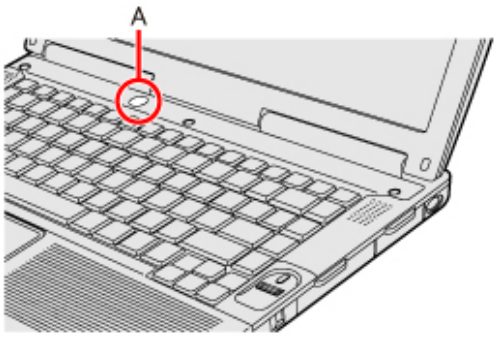
- **It may take 1 or 2 minutes to enter sleep or hibernation. Do not touch any key though the screen becomes dark.**
- **After releasing the power switch, do not operate it until the power indicator blinks or goes off.**
  If you press and hold the power switch for longer than 4 seconds, the computer will forcibly shut down and unsaved data will be lost even if you have set [When I press the power button] to any item in [Choose what the power button does] of [Power Options] in [Control Panel].

In sleep or hibernation

- Do not attach or remove peripheral devices. Doing so may cause malfunction.
- Power is consumed in sleep.
  Power consumption may increase when an ExpressCard is inserted (Only for model with ExpressCard slot). When power is exhausted, the data retained in memory will be lost. Connect the AC adaptor when using the sleep function.
- Do not turn on/off the wireless switch.

To resume from sleep or hibernation

1. **Open the display, or press the power switch (A).**



CAUTION

- **Do not perform the following operations until resuming is complete. After the display is resumed, wait approximately 15 seconds (normally) or 60 seconds (when the computer is on a network).**
  - Touch the keyboard, touch pad, touchscreen (only for model with touchscreen) or power switch.
  - Use an external mouse or other peripheral devices.
  - Connect or disconnect the AC adaptor.
  - Close or open the display.
  - Shut down or restart Windows.
  - Enter sleep or hibernation.
  - Operate the wireless switch.
  - Insert and remove the SD Memory Card.
- **If the computer enters sleep while a USB keyboard or mouse is connected, touching the USB keyboard keys or mouse will resume the computer.**

Saving Power

You can extend battery life and save power also during AC adaptor usage.

Reducing Power Consumption

Use the methods below to reduce power consumption.

- **Change the Power Options to [Panasonic Power Management(Power Saving)].**
  While [Panasonic Power Management (Standard)] selected as the factory default, selecting [Power saver] will further reduce power consumption.
- **Press ≪Fn≫ + ≪F1≫ to reduce LCD brightness**
  Reducing internal LCD brightness will reduce power consumption.

Furthermore power saving options:

- **Turn off the computer when it is not in use**
  You can also turn off only the wireless LAN or wireless WAN power.
- **Disconnect external devices (USB devices, external mouse, etc.) that are not being used**
- **Use Sleep/Hibernation**
  Press ≪Fn≫ + ≪F7≫ to set the computer to sleep or ≪Fn≫ + ≪F10≫ to set it to hibernation when you have to leave the computer.
  This shuts down computer operation to reduce power consumption.
- **Disable Wake Up from wired LAN function when it is not needed.**
  This reduces power consumption in Sleep/Hibernation.
  To confirm current settings:
  1. Click on the notification area and click .

     The notification area is available on the desktop screen.
  2. Click [Extension settings - Edit] to view [Wired LAN's power while sleeping].
- **When using the battery, do not use applications that place a significant load on the CPU.**
  Some application software may place a large burden on the CPU only with start-up and may consume power.
- **When you are using the screen saver with 3D graphics, change to another screen saver**
  To change the screen saver, right-click the desktop, click [Personalize] - [Screen Saver] and click the title of the screen saver.

Using Power Plan Extension Utility

You can adjust the power plan to change power saving features as required.

Switching the power plan

1. **Start Dashboard for Panasonic PC (** Dashboard for Panasonic PC**), click [Basic], and then click [Change Settings] in the [Power Plan EX] tile.**
   Alternatively you can open power plan, click **on the notification area and click** **.**
   The notification area is available on the desktop screen.
2. **Click the power plan you wish to set from the displayed menu.**
   To display the current status of Power Extension Utility settings, click [Extension settings - show current].
3. **Confirm the changed contents of the power plan and click [OK].**
4. **If the screen to set to restore the power plan is displayed, select whether restoring the power plan to the previous state (before switching) after a certain period of time or not, and then click [OK].**

Customizing the Power Setting

You can choose the optimum power setting for your operating condition by selecting a power plan. You can also create your own power plan.

Changing the Power Plan Setting

1. **Click or on the notification area and click [More power options].**
   The notification area is available on the desktop screen.
2. **Click [Change plan settings] of the power plan you want to change.**
3. **Change the settings.**
   - [Change advanced power settings]: You can make more detailed settings.
4. **Click [Save changes].**

Creating Your Own Power Setting

1. **Click or on the notification area and click [More power options].**
   The notification area is available on the desktop screen.
2. **Click [Create a power plan], select one of the three existing power plans to start with, and input the name of power plan.**
3. **Click [Next].**
4. **Change the settings and click [Create].**
   - To change the settings or to make more detailed settings. (Changing the Power Plan Setting)

Deleting the Power Plan

1. **Click or on the notification area and click [More power options].**
   The notification area is available on the desktop screen.
2. **Click [Change plan settings] of the power plan you wish to delete.**
   If the power plan you wish to delete is already selected, select another plan first.
3. **Click [Delete this plan], and then click [OK] on the confirmation screen.**

Security Measures

Setting the Supervisor Password/User Password

Set the Supervisor Password before setting the User Password.

1. **Start up the Setup Utility. (** Starting the Setup Utility**)**
2. **Select [Security].**
3. **Select [Set Supervisor Password] or [Set User Password], and press ≪Enter≫.**
4. **Enter your password in [Create New Password] and press ≪Enter≫.**
   - When the password has been set, you need to enter your password in [Enter Current Password] and press ≪Enter≫.
   - To disable the password, leave the input field empty and press ≪Enter≫.
5. **Enter your password again in [Confirm New Password] and press ≪Enter≫.**
6. **Press ≪F10≫, and then click [Yes].**

CAUTION

- Do not forget your password. If you forget your Supervisor Password, you will not be able to use your computer. Contact Panasonic Technical Support.
- When running the Setup Utility, do not leave and go away from your computer even for a short time, since other people may set or change the password.

NOTE

- **The password will not be displayed on the screen.**
- **If the [Caution] screen appears when entering the password, check the status of NumLock and CapsLock.**
- **You can use up to 32 alphanumeric characters (including spaces).**
  - The case (upper/lower) is distinguished.
  - Use only the upper horizontal row of numeric keys to input your password.
  - You cannot use ≪Ctrl≫ to input a password.
- **Disabling the Supervisor Password also disables the User Password.**

Preventing Your Computer from Unauthorized Use

You can set a start-up password to protect your computer from unauthorized use.

1. **Set the password (** Setting the Supervisor Password/User Password**) , and select [Enabled] in** [Password On Boot] **and/or** [Password On Resume] **in the [Security] menu of the Setup Utility.**

NOTE

- The [Password On Resume] of Setup Utility is effective when the computer was once shut down, and not effective when the computer resume from sleep.
- If the Supervisor Password or User Password has been set, the password input screen will be displayed on starting-up of the Setup Utility even though [Password On Boot] and/or [Password On Resume] is set to [Disabled]. If you set [Password On Boot] to [Enabled] and set [Password on Reboot] to [Same as Boot], password input will also be required at Windows restart. ([Same as Boot] is the default setting.)

Preventing Your Hard Disk Data from Being Read or Written

The hard disk lock function protects the hard disk data from being read or written when the hard disk is attached to another computer. The data can be read/written when the hard disk is returned to the original computer. (Note that the hard disk lock does not guarantee complete protection of the data.)

1. **Select [Enabled] in [Hard Disk Lock] in the [Security] menu of the Setup Utility.**

CAUTION

- **For the data being read/written on the original computer, the Setup Utility settings must be the same as when the hard disk was removed.**
- **You cannot use the hard disk lock function without setting the Supervisor Password. Set the Supervisor Password beforehand (** Setting the Supervisor Password/User Password**).**
- **When you have your hard disk drive repaired**
  - Contact Panasonic Technical Support.
  - Before sending back the hard disk drive, be sure to set the [Hard Disk Lock] to [Disabled].

NOTE

- The hard disk lock function works with the built-in hard disk. It does not work with the external hard disk.
- We recommend you to set [Password On Boot] to [Enabled] to ensure security though it is not required to enable the hard disk lock.
- Note that the hard disk lock does not guarantee complete protection of the data.

Disabling CD/DVD Drive

Disable CD/DVD drive operation to prevent the drive from being read/written and from being used to start the computer.
You can protect your data from unauthorized access or accidental overwriting.

1. **Select [Disabled] in [Optical Drive] in the [Advanced] menu of the Setup Utility.**

NOTE

- This does not work for USB CD/DVD drive.

Using Intel® Identity Protection Technology (Intel® IPT)

<Only for model with Intel® Core™ vPro™ processor>

With Intel® IPT, a six-digit One-Time Password is generated every 30 seconds. Using this One-Time Password can perform two-factor authentication to prevent unauthorized access. Thus, stronger authentication is enabled. To use Intel® IPT, a dedicated solution or application software provided by a service provider is required.

For information about the using method, contact the service provider.

Other security measure

- **<Only for model that supports TPM>**
  Set [Embedded Security (TPM)]: For further information, refer to the *Installation Manual* for Trusted Platform Module (TPM).
- **About Secure Boot**
  "Secure Boot" is a function that protects your computer by prohibiting Operating System other than those permitted under factory default conditions from being executed during startup.

（This function is enabled as the factory default.）

Battery Power

Important Battery Tips

How to use the battery with minimal deterioration

The battery is a consumable and, as such, its performance will gradually deteriorate. This deterioration is accelerated under the following conditions.

- **When the battery is repeatedly charged**
- **When the battery is used, charged or stored in a place with high temperature**

To minimize deterioration of the battery and ensure a longer battery life, you must reduce the number of charges and ensure that the temperature inside the battery does not become too high. Bear in mind the following points.

Charge the battery in a temperature range of 10°C to 30°C {50°F to 86°F}

In places where the outside air temperature is high, the temperature inside the battery will also become high. Do not charge the battery inside a vehicle with all its windows closed and exposed to the hot sun or in other places where the temperature is high.
This computer's battery will not be charged if its temperature is outside the allowable range. (At such a time, the battery indicator blinks orange.)

We recommend charging the battery no more than once per day

Recharging the battery after every small use raises the total number of battery charges and speeds battery deterioration.
To lower the total number of battery charges, we recommend recharging the battery no more than once per day or when the remaining charge drops to 10% or less.
With this computer, in order to reduce the number of charges, the battery will not be recharged immediately after it has been fully charged unless the remaining charge has fallen to less than 95 %.

Charging the battery while the computer is powered off is recommended

If the computer's power is on, the temperature inside the battery rises due to the effects of heat from the CPU and other components. We recommend that you only charge the battery when the computer is powered off.

Use the battery in the high temperature mode

High temperature mode is a function that prevents deterioration of the battery in high temperature environments or when using the fully charged battery pack for a long period of time.
When the high temperature mode is selected, the battery capacity is reduced, and therefore the battery operating time is shorter.
We recommend the high temperature mode setting when the computer is to be used under the following conditions:

- **When the computer is to be used in a vehicle**
- **When the computer is to be used in a place with high temperature**
- **When the computer is to be used for extended periods of time with the AC adaptor connected**
- **When battery operation is not required for long hours (When the battery's remaining capacity does not often drop to 40% or below in normal temperature mode)**

How to use the computer to maximize the battery operation time

Leave the computer off when it is not in use

Decrease the internal LCD brightness by pressing ≪Fn≫ + ≪F1≫

Pressing ≪Fn≫ + ≪F1≫ will lower the degree of brightness, thereby reducing the power consumption.

Before stepping away from your computer, press ≪Fn≫ + ≪F7≫ or ≪Fn≫ + ≪F10≫ to put your computer in the sleep or hibernation mode

Pressing these key combinations will put your computer in the sleep or hibernation mode, thereby lowering the power consumption.

Click or in the notification area, and select a power plan that uses the power-saving function.

If no power plan that uses the power-saving function is shown, click [More power options] and then click [Change plan settings] for the power plan you want to modify.
Then change the power-saving settings.

The notification area is available on the desktop screen.

We recommend against using applications or screen saver that place a significant load on the CPU

Some screen savers place a large load on the CPU. When using these screen savers, a significant load is placed on the CPU even when the computer is not being used. We recommend that you do not use screen saver that will drain the CPU.

Remove peripheral devices (USB devices, external mouse, etc.) when not in use

When the network communication is not working, turn off the wireless LAN using the wireless switch

When the computer is not going to be used for an extended period (a month or more)

In order to maintain the battery performance, remove the battery with a remaining charge of 30% to 40% from the computer, and store it in a cool, dark place

If the battery pack is kept installed in the computer, it will discharge gradually even when the computer's power is off. If this condition continues for a long period (several months or more), the battery may overdischarge, causing its performance to deteriorate. In addition, this deterioration will accelerate if the battery pack is stored inside a vehicle with all its windows closed and exposed to the hot sun or in other places where the temperature is high. Store the battery pack where the temperature is within the range of 10°C to 30°C {50°F to 86°F}.

Things to keep in mind when using the battery pack

Bear in mind the following points when installing and removing the battery pack

- **Do not install or remove the battery pack while the computer is in the sleep mode.**
  Removal of the battery pack in this mode cause the data to be erased and cause the computer to malfunction.
- **Do not touch the terminals on the battery pack.**
  If the terminals are dirty or damaged, the battery may not function properly or the computer may not operate properly.

Charging time and discharging time differs depending on the computer's power status and temperature

- **It takes longer to fully charge the battery when the computer's power is on. To charge the battery more quickly, power the computer off, or put it in the sleep or the hibernation mode.**
- **It takes longer to fully charge the battery in low temperature environments. The battery discharges more quickly in low temperature environments.**

Battery Indicator

Battery indicator	Battery status
Not lit	The battery pack is not inserted or not being charged.
Orange	Charging is in progress.
Green	The battery is fully-charged.
Blinking green	In High temperature mode, the battery pack is discharging the power to 80%[*1] of the normal temperature mode. Do not remove the battery pack in this status.
Red	The remaining battery is approximately 9% or less.
Blinking red	The battery pack or the charging circuit is not operating properly.
Blinking orange	The battery cannot be charged temporarily due to the following reasons: - Its internal temperature is out of the acceptable range. - The power supply is not enough because software applications or peripheral devices are consuming a large amount of power.

Battery indicator	Battery status
Blinking green and orange alternately	<Only for model with HDD heater> The temperature is low and the computer is warming up to prevent the hard disk drive from malfunctioning. The computer will start automatically after warming-up.

*1 : In high temperature mode, the 100% battery level is equivalent to 80% level of the normal temperature mode.

NOTE

- Once the battery is fully charged, the computer performs recharging only when the battery level becomes less than approximately 95%, so overcharging is avoided.
- When [LED] is set to [OFF] on the [Concealed Mode Configuration] menu, LED does not turn on.

Checking the Remaining Battery Power

To check the remaining battery power on the screen

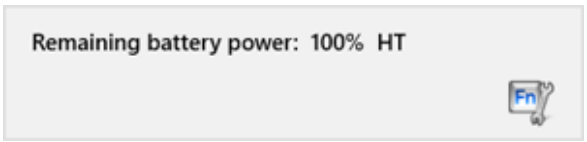
1. **Start up Dashboard for Panasonic PC and click [System] - [Battery].**

   Alternatively, you can check the remaining battery power by ≪Fn≫ + ≪F9≫ key combination.

   (After logging on to Windows)

   - **When the battery pack is inserted (example)**

     : Normal temperature mode

     : High temperature mode

   - **When the battery pack is not inserted**

NOTE

- **The battery display may not correspond to the actual remaining battery power in the cases as below. To correct the display, perform the Battery Recalibration (Correcting the Battery Display (Battery Recalibration)).**
  - The battery indicator remains red.
  - The indicator lights orange and the display shows 99% for a long time.
  - Low battery warning appears soon after a short time of use.
    This can occur when the computer is in sleep for a long time without power supply from the AC adaptor.
- **The battery display may not be the same as that of notification area. This is not a malfunction.**

High temperature mode

The high temperature mode can prevent the battery from deteriorating when the computer is used in high-temperature environment or used for a long time with its battery fully charged.
Select [Auto] (default) or [High Temperature] in [Environment] of the [Main] menu of the Setup Utility.

In [Auto] mode, high temperature mode or normal temperature mode is selected automatically depending on the battery status (the internal temperature of the battery pack, etc.) or usage condition (when the AC adaptor has been connected for a long period of time).

NOTE

- Note that a level corresponding to a 100% charge for high temperature mode is approximately equivalent to an 80% charge level for normal temperature mode.
- After switching from [Normal Temperature] to [High Temperature] or vice versa, the remaining battery capacity will not be displayed correctly until the battery pack is completely discharged or fully charged.
- In the [Auto] mode:
  Once the computer has automatically switched from the normal temperature mode to the high temperature mode, the computer will not switch back to the normal temperature mode until the battery has been used and recharged to a total charge level of about 5 times as much as that of the fully-charged state. This is to avoid battery deterioration.

Computer behavior with low battery

The default settings are as follows.

When the battery level becomes 10 % [Low battery level]	**When the battery level becomes 5 % [Critical battery level]**
Displays a message that the battery level is low. ↓	The computer enters hibernation. ↓
Charge the battery.	**Connect the AC adaptor or replace the battery to start up the computer.**
Connect the AC adaptor immediately. If you do not have the AC adaptor, exit the running programs and Windows, then confirm that the power indicator is off. If you have a fully charged spare battery, turn off the computer, replace the battery and turn the computer on again.	Connect the AC adaptor and charge the battery. If you have a fully charged spare battery, turn off the computer, replace the battery and turn the computer on again. When the computer enters hibernation with the battery down and you resume the operation without charging the battery, the Windows Resume Loader starts up. Follow the on-screen instructions. After that, however, Windows may not start up normally, or the [Low battery level]/[Critical battery level] function may not work normally.

Changing the Battery Charging Speed

The battery may become hot while being charged. You can make the battery charging speed slower to keep the battery cooler during charge.

1. **Click on the notification area and click .**
   The notification area is available on the desktop screen.
2. **At [Battery Charge Speed], select [Slow] to make the battery charging speed slower.**
   To return to the normal charging speed, select [Standard].

Correcting the Battery Display (Battery Recalibration)

The "Battery Recalibration" function measures and memorizes the battery capacity. To correct the battery display, use this function to fill the battery and then discharge it completely. Perform the procedure at least once immediately after purchasing the computer. Normally the interval of battery recalibration is 3 months.
The battery display may not be correct when the battery pack deteriorates after a long time use. In this case, perform the procedure again.

1. **Connect the AC adaptor.**
2. **Perform "Battery Recalibration".**
   You can operate your computer while the battery recalibration is in progress.
   1. Start Dashboard for Panasonic PC (Dashboard for Panasonic PC), click [Basic], and then click [Launch] in the [Battery Recalibration]

tile.

2. Select the battery pack on which to perform Battery Recalibration.
   The required time is displayed.
3. Select [Perform Battery Recalibration while Windows operations are running] or [Perform Battery Recalibration after shutting down Windows].
4. Click [Start].

   When the confirmation message appears, click [YES].

After the battery recalibration is finished, normal charging starts.

NOTE

- **Alternatively, you can start “Battery Recalibration” using the following steps.**
  Click on the Start screen, and click [Battery Recalibration] under “Panasonic”.
- **The temperature range should be 10°C to 30°C {50°F to 86°F}.**
- **When performing the battery recalibration without shutting down Windows, the battery recalibration ends and will not be completed if the AC adaptor is removed, or if the computer enters sleep or hibernation mode during recalibration.**
- **Frequent recalibration of the battery can degrade the battery. A caution message appears when the battery recalibration is performed at the shorter interval than approximately a month. In this case, cancel the battery recalibration.**
- **The battery recalibration may take a long time due to the large battery capacity. This is not a malfunction. (An expected approximate recalibration time is displayed. When performing the battery recalibration without shutting down Windows, the recalibration time will be longer than shown.)**
- **If the computer is turned off during the battery recalibration (e.g., due to power failure, or accidental removal of the AC adaptor and battery pack), the battery recalibration will not be completed.**
- **You can also perform the battery recalibration with the following procedure. (You can perform the battery recalibration after shutting down Windows.)**
  1. Restart the computer.
  2. Press and hold ≪F9≫ while the [Panasonic] boot screen is displayed just after the computer starts the startup procedure.
  3. When the remaining battery capacity is displayed, press ≪Enter≫.
  4. Follow the on-screen instructions.

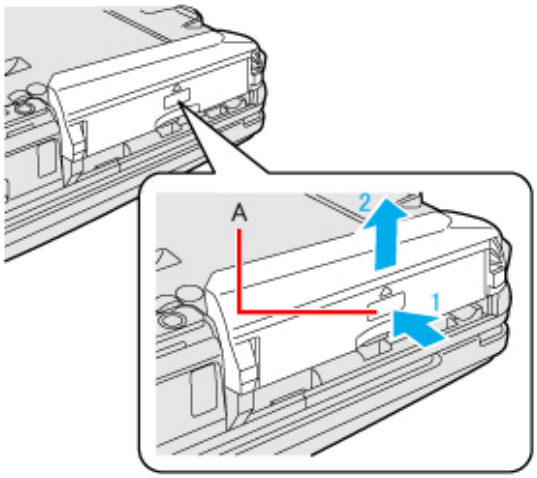
Replacing the Battery Pack

The battery pack is a consumable item so the replacement will be necessary. If the battery operation time becomes noticeably short and not recovered even after recalibrating the battery, replace with a new battery.

CAUTION

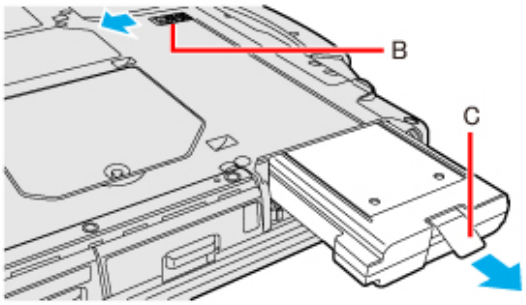
- The battery pack is not charged when you first purchase it. Be sure to charge it before using for the first time. Charging starts automatically when the AC adaptor is connected to the computer.
- Use only the specified battery pack with your computer.
- In sleep, do not remove/replace the battery pack. Otherwise your data will be lost and the computer may be damaged.

1. **Turn off the computer.**
   - Do not use the sleep function.
2. **Reverse the computer and remove the cover.**
   1. Press and hold the PUSH mark part (A) and slide the cover to remove.

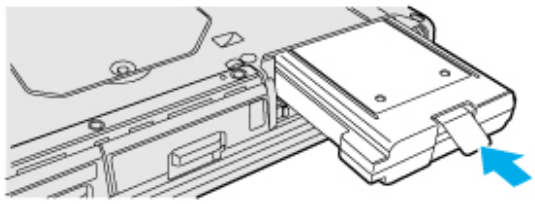


3. **Remove/Insert the battery pack.**

- To remove
  Slide and hold the latch (B), and pull the tab (C) of the battery pack.

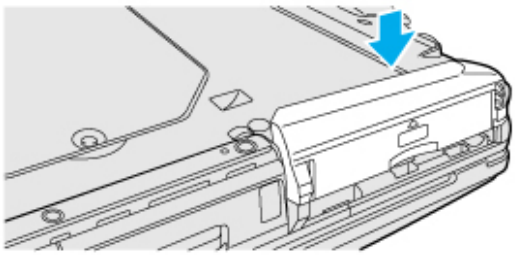


- To insert
  Insert the battery pack until it securely fits the connector.



4. **Slide the cover back.**

Push the cover until it clicks.



CAUTION

- Make sure the latch is securely locked, otherwise the battery pack may fall when you carry the computer.
- Do not remove the battery pack forcibly when the latches are locked. Doing so may damage the battery pack.

CD/DVD Drive

NOTE

- Connect the AC adaptor if writing operation takes a long time. If the remaining battery power becomes low and the power is not supplied, writing operation may not be completed.
- You need to use writing software to write to discs (e.g. Using Roxio Creator LJB).
  Ensure the disc is compatible with the selected writing speed.
  You can also use Windows features to write to discs (Using Windows Feature).
- The quality of written data depends on the disc.

Handling Precautions

CD/DVD drive handling care

- Do not expose the CD/DVD drive to excessive smoke that may leave a residue, e.g., oil smoke, or tobacco smoke. Doing so can shorten the life of the drive lens.
- We recommend cleaning the drive lens with an air puffer used for camera lenses. (Do not use any spray-type of lens cleaning products.)

When opening/closing the tray

- When the computer is on, use the eject button (Inserting/Removing a Disc) or eject through Windows.
- When inserting or removing a disc, be careful not to touch the lens and other parts of the laser pickup.
- Do not leave the tray open and do not touch the lens.
  The lens and disc can become dusty in some conditions. It may cause malfunction in reading or writing.
- Do not apply excessive force to the tray in the open position.
- Never insert a foreign object such as a paper clip into the CD/DVD drive.
  Doing so may cause malfunction.
- Do not place items other than discs on the tray.
- Do not access the drive until after the tray is closed.
- Set this computer on a horizontal plane.

While the CD/DVD drive is being accessed

- Do not open the CD/DVD drive or move the computer while the CD/DVD drive is being accessed. Doing so could cause the disc to shift position and this may damage the disc, or cause the CD/DVD drive to malfunction. In addition, after running an application involving access to a disc, close the application before opening the CD/DVD drive.
- Set this computer on a horizontal plane.

Disc handling care

- **Do not use deformed, warped, or irregularly shaped discs.**
  Reading of disc may not be possible depending on the disc conditions (cracks, dirt, modification, data recording quality, copy protection, recording equipment/software that was used to create the disc, etc.)
- **Before using a disc, carefully read the operating/handling instructions and package of the disc.**
- **If the discs are not handled appropriately, they may become dirty or scratched. Furthermore the writing speed may get slower and the data may not be correctly written on or read from the disc. Other damage may cause a drive failure.**
- **Note the following precautions.**
  - Do not touch the disc surface (the side with no printing).
  - Keep the disc surface clean and free from dirt, dust, fingerprints and scratches.
  - Do not write on the surface of the disc with a ballpoint pen or other writing instrument.
  - Do not attach stickers to discs.
  - Do not drop, bend, or place heavy objects on top of discs.

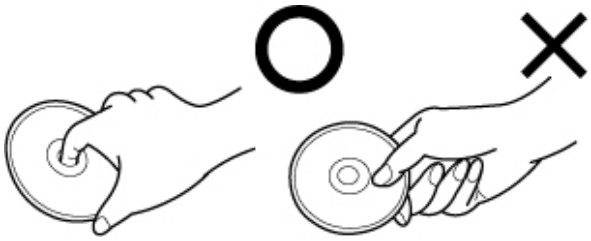
- Do not place or store discs in locations exposed to heat, direct sunlight, humidity or dust.
- If a disc is brought from a cold to a warm location, condensation may form on the disc. For read-only discs, wipe off the condensation using a soft, dry, lint-free cloth before using the disc. For recordable/rewritable discs, wait until the condensation dries.
- When not using discs, keep them in their protective cases or cartridges.

To clean discs

- Wipe discs with a dry, soft cloth from the center toward the edge. If discs get very dirty, wipe with a moist, soft cloth from the center toward the edge, then wipe again with a dry cloth to take up remaining moisture.

- Use the disc for recordable/rewritable discs cleaner to clean these discs. Do not use a cloth, CD cleaners or any other such cleaners under any circumstances.

How to hold a disc



Disc Information

- You can read from/write to the following discs.

CD-R	CD-RW
COMPACT disc Recordable	COMPACT disc ReWritable / COMPACT disc ReWritable High Speed / COMPACT disc ReWritable Ultra Speed

DVD-RAM*1	DVD-R	DVD-R DL	DVD-RW*2
DVD RAM	DVD R	DVD R DL	DVD RW

+R	+R DL	+RW	+R
		DVD+ReWritable	DVD+ReWritable High Speed

*1 : DVD-RAM: Only non-cartridge type or removable cartridge type can be used.
*2 : Does not support DVD-RW Ver.1.0.

- You can read from the following discs.

CD-ROM	CD DIGITAL AUDIO	CD TEXT

CD-ROM	CD DIGITAL AUDIO	CD TEXT

CD-EXTRA	Video CD	Photo CD

DVD-ROM	DVD-Video

Recommended discs for writing

CD-R
- TAIYO YUDEN Co., Ltd.

CD-RW/High-Speed CD-RW
- MITSUBISHI KAGAKU MEDIA CO., Ltd.

Ultra-Speed CD-RW
- MITSUBISHI KAGAKU MEDIA CO., Ltd.

DVD-R
- Panasonic Corporation
- MITSUBISHI KAGAKU MEDIA CO., Ltd.
- TAIYO YUDEN Co., Ltd.

DVD-R DL
- MITSUBISHI KAGAKU MEDIA CO., Ltd.
- TAIYO YUDEN Co., Ltd.

DVD-RW
- MITSUBISHI KAGAKU MEDIA CO., Ltd.
- Victor Company of Japan, Limited

DVD-RAM
- Panasonic Corporation
- HITACHI MAXELL, Ltd.

+R / +RW
- MITSUBISHI KAGAKU MEDIA CO., Ltd.

High Speed +RW
- MITSUBISHI KAGAKU MEDIA CO., Ltd.

+R DL
- MITSUBISHI KAGAKU MEDIA CO., Ltd.

DVD discs you can use for writing

DVD-R for General
- 1X-SPEED (4.7 GB)
- 1-2X-SPEED (4.7 GB)
- 1-4X-SPEED (4.7 GB)
- 1-8X-SPEED (4.7 GB)
- 1-16X-SPEED (4.7 GB)

DVD-R DL
- 2-4X-SPEED (8.5 GB)
- 2-8X-SPEED (8.5 GB)

DVD-RW
- 1X-SPEED (4.7 GB/9.4 GB)
- 1-2X-SPEED (4.7 GB/9.4 GB)
- 2-4X-SPEED (4.7 GB/9.4 GB)
- 2-6X-SPEED (4.7 GB/9.4 GB)

DVD-RAM
- 2X-SPEED (4.7 GB/9.4 GB)
- 2-3X-SPEED (4.7 GB/9.4 GB)
- 2-5X-SPEED (4.7 GB/9.4 GB)

+R
- 1-2.4X-SPEED (4.7 GB)
- 1-4X-SPEED (4.7 GB)

1-8X-SPEED (4.7 GB)
1-16X-SPEED (4.7 GB)
+R DL
2.4X-SPEED (8.5 GB)
2.4-8X-SPEED (8.5 GB)
+RW
1-2.4X-SPEED (4.7 GB)
1-4X-SPEED (4.7 GB)
High-Speed +RW
3.3-8X-SPEED (4.7 GB)

Using DVD Media

To play DVD-Video, you need to use DVD playback software such as PowerDVD.

Region code setting

DVD-Video is allocated to region codes according to where they are sold. To play the DVD-Video, the player's software and the drive must have the corresponding region code.

e.g., For U.S.A. and Canada: "1" / For Europe: "2"

- The region code of the drive is not set at purchase. The operation depends on the DVD-Video that is first played.
  - **DVD-Video with a specific region code:**
    The drive will automatically be set at the same region code as the DVD-Video.
  - **DVD-Video with multiple region codes:**
    [Confirm Region] appears. Select the region code and click [OK]. Play now begins.

CAUTION

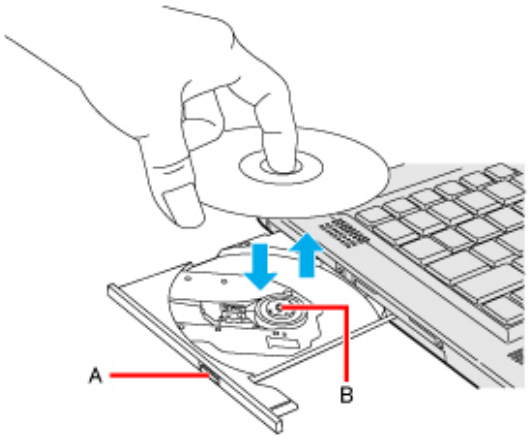
- You can change the region code setting up to 5 times including the initial setting. Be extremely careful because you cannot change the region code anymore after the fifth change, even if you reinstalled the operating system.
- Any problem resulting from illegal changing or altering of the region code is the user's responsibility.

NOTE

- If the DVD-video disc's region code does not match with the one supported by your computer, the [Region Playback Control] screen appears. The screen shows the region code of the inserted disc, and the number of remaining time of changing the code.

Inserting/Removing a Disc

1. **Turn on the computer.**
2. **Press the eject button (A) and slowly pull out the tray.**



3. **Insert/Remove a disc.**
   - To insert

Set the disc with the label side up and press the center of the disc until it clicks in place.

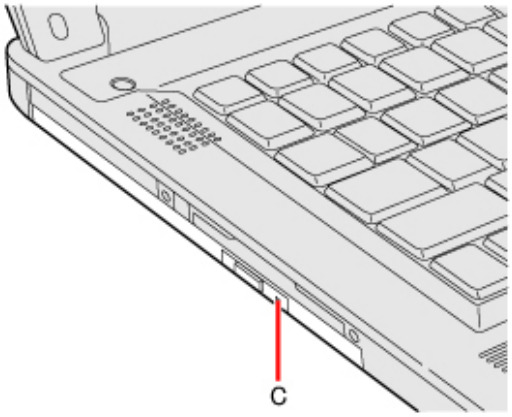
- To remove
  Press on the center spindle (B) and carefully lift up the edge of the disc.

4. **Close the tray.**

   Do not press the eject button (A).

NOTE

- **To remove a disc when the computer is powered off, insert a pin of 1.3 {±0.05} mm in diameter into the emergency hole (C). (When the diameter of the pin is smaller than this, insert the pin slightly downward.) Pushing it to the end allows the tray to come out.**



- **For AutoPlay CD/DVD:**
  - If an AutoPlay CD/DVD does not start after the computer resumes from sleep or hibernation, remove the disc from the drive and then reinsert it after waiting 15 seconds.
  - An AutoPlay CD/DVD may start during file access depending on the status of the disc.
- **When playing back motion video from a disc, playback may not be smooth in some conditions.**

Power-saving mode

If the CD/DVD drive is not accessed for 30 seconds, the drive motor will automatically be shut down to reduce the power consumption. When the CD/DVD drive is accessed again, the drive motor is turned on. In this case, reading of the disc data will take approximately 30 seconds.

PowerDVD

PowerDVD is an application software for DVD playback.

Running PowerDVD

You can run "PowerDVD" either of the following procedures.

- **Double-click (CyberLink PowerDVD 10 for Panasonic) on the desktop.**
- **Perform the following procedures.**

  1. Click on the Start screen.

     <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

  2. Click [CyberLink PowerDVD 10 for Panasonic] under "CyberLink PowerDVD 10 for Panasonic".

NOTE

- **If "PowerDVD" is not installed, install it using the following procedure.**

  1. Press ≪ ≫ + ≪R≫, input "C:\util\powerdvd" in [Open:], and press ≪Enter≫.
  2. Double-click [install] in the "powerdvd" folder.
     - If [User Account Control] is displayed, click [Yes].
     - Follow the on-screen instructions that appear.

- **Depending on your operating environment or the DVD-Video, a minor loss in frames (video and audio skipping) may occur immediately after resuming playback from the pause state.**
- **Depending on your operating environment or the DVD-Video, playback may not be smooth or audio may be difficult to hear during fast forward (time stretch) playback.**

If the AutoPlay screen appears when you insert the disc in the CD/DVD drive

Click [Play DVD Video - PowerDVD10].

PowerDVD Operations

Displaying Help

After PowerDVD starts, click at the top right of the screen.

Displaying the User's Guide (PDF)

- Press ≪ ≫ + ≪R≫, input "c:\util\powerdvd\doc\Enu\PowerDVD10_UG.pdf" in [Open:], and press ≪Enter≫.

As the version of PowerDVD included with this computer is an OEM version, some functions are restricted and the following features that are described in the Help are not available on this computer.

- Playback and image display for CDs (audio and video) and music files
- Additional features such as Movie Collection and Movie Remix

DVD Discs Created Using a DVD Recorder

The following restrictions apply:

- Depending on the condition (record quality, cracks, dirt, modification, copy protection, type of drive/disc maker used when creating the disc, etc.) of a disc, it may not be possible to be read or play it correctly.
- In order to play discs other than DVD-RAM, they must be finalized (a process that enables it to play on other DVD players, etc.). For information on the finalizing method used by your DVD recorder, refer to its operating instructions.
- This computer does not include an application or DVD drive for playing AVCREC format or AVCHD format media. As a result, this computer cannot play back DVD media recorded in AVCREC format or AVCHD format.

Region Codes

The region code setting can be changed up to 5 times, including the first time (changing from region [2] to region [2], for example, is not counted).
After the fifth time, the region code setting will be locked and cannot be changed again, even if you reinstall Windows. Be very careful when configuring this setting, as you (the user) are fully responsible for any problems arising from unintended settings.

Region code settings

CAUTION

- DVD-Video sold in certain regions include region code restrictions that require the region code settings of the DVD disc and drive to match in order to play back video. However, some discs include multiple region code settings or are region free.

The region code of this computer's drive is not set under factory default conditions. As a result, the region code settings screen will appear the first time you attempt to play back a DVD-Video.
The region code must be set at this time, even when playing multi-region or region-free discs.
After setting the region code for the first time, the region code settings screen will appear each time a disc of a different region is inserted in the drive.

Checking the region code

You can check the current region setting and the remaining number of times the setting can be changed by following the procedure below.

1. **Perform either of the following procedures.**
   - For the Desktop screen
     1. Right-click at the bottom left corner of the Desktop screen.
     2. Click [Device Manager].
   - For the Start screen
     1. Click on the Start screen.

        <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
     2. Right-click [This PC] under “Windows System”.
     3. Click [Properties] - [Device Manager].
2. **Double-click [DVD/CD-ROM drives].**
3. **Double-click the device name of the CD/DVD drive (ex: MATSHITA DVD-RAM...).**
4. **Click [DVD Region].**

   The current region and the number of changes remaining are displayed.

Cautions on Use

- **You cannot play back CDs (audio, video, etc.) or DVD-Audio with PowerDVD.**
- **If your HDMI-compatible display does not support HDCP (High-bandwidth Digital Content Protection), commercially available DVD-Video cannot be played back.**
- **Do not start PowerDVD immediately after starting up the computer or while the drive indicator is blinking.**
- **When PowerDVD is running, do not:**

- Enter sleep or hibernation.
- Change the screen display mode. If you inadvertently perform these operations, exit PowerDVD and restart it.

Do not install other media players while PowerDVD is installed.

If you install another media player, playback errors may occur. Some commercially available DVD-Video files may attempt to install their own media players at playback. Be sure to cancel installation in the installation start screen in such cases. If you accidentally install the player and playback errors occur, uninstall the media player.

Writing to CD/DVD

Applicable Media

- Refer to the Disc Information.
- Refer to the software's online manual (below).

About Copies
When writing to discs, make sure that you are not infringing upon any copyrights. It is illegal to copy commercially available audio CDs for non-personal use.
When backing up software, make sure that you are not infringing upon any software copyrights for that product.

Using Windows Feature

1. **Insert a disc you can use for writing.**
2. **In the [AutoPlay] screen, click [Burn files to disc].**
   - Alternatively:
     1. Perform either of the following procedures.
        - For the Desktop screen
          1. Right-click at the bottom left corner of the Desktop screen.
          2. Click [File Explorer].
        - For the Start screen
          1. Click on the Start screen.

             <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
          2. Click [This PC] under "Windows System".
     2. Double-click [DVD RW Drive].
   - Follow the on-screen instructions.

Using Roxio Creator LJB

"Roxio Creator LJB" is a CD/DVD recording software application developed by SONIC Solutions.
For further information, refer to the software's online manual (below).

1. **Click on the Start screen, and click [Roxio Creator LJB for Panasonic] under "Roxio".**

CAUTION

- **If you format a disc using Windows functions, you cannot write with Roxio Creator LJB.**

  Do not format a disc using Windows functions when you write to the disc using Roxio Creator LJB. For rewritable discs (i.e. CD-RW, etc.), writing is possible using Roxio Creator LJB if all the disc contents are deleted.
- **If you set an unused disc in the CD/DVD drive, [AutoPlay] screen may appear and then Windows format screen may be displayed. Do not format the disc when you use Roxio Creator LJB.**

  When you write to the disc using Roxio Creator LJB, start Roxio Creator LJB before setting the disc. Windows format screen will not be displayed, which prevents the disc from being mistakenly formatted.

To access the online manual

1. **After starting Roxio Creator LJB, click [Help] - [Help].**

Using DVD-RAM

Formatting must be executed to write a file to a DVD-RAM. It is possible to write a file to a formatted DVD-RAM in the same way as writing a file to a floppy disk or hard disk.

Format type

There are following types of DVD-RAM formats, as shown below. We recommend that you choose the format type depending on the application.

Format	Feature
FAT32	This format is supported by Windows 95 (OSR2) / 98 / Me / 2000 / XP / Vista / 7 / 8. DVD-RAM discs in FAT32 format cannot be used on Windows 95 (other than OSR2) / Windows NT.
UDF1.02	This format is supported by Windows 98 / Me / 2000 / XP / Vista / 7 / 8, and compatible with the Video mode of DVD-ROM / DVD-R / DVD-RW / +R / +RW.
UDF1.50	Standard format for DVD-RAM. Data with large file sizes (video or audio data) can be written at high speed. We recommend this format when using DVD-RAM for storing data.
UDF2.00/2.01	This format is used for DVD video recorders conforming to “Video Recording Standards” as established by the DVD Forum, or for PC recording software conforming to the same standards.
UDF2.5	This format is supported by Windows Vista / 7 / 8, and is used for Blu-ray recorders or PC recording software conforming to “Video Recording Standards” as established by the Blu-ray Disc Association. This format cannot be used for DVD recorders conforming to “Video Recording Standards” as established by the DVD Forum, or for PC recording software conforming to the same standards.

Formatting method

When formatting is executed, data recorded on the disc is erased. Back up data as required.

1. **Set a DVD-RAM in the CD/DVD drive.**
2. **Close all applications that use DVD-RAM.**
3. **Perform either of the following procedures.**
   - For the Desktop screen
     1. Right-click at the bottom left corner of the Desktop screen.
     2. Click [File Explorer].
   - For the Start screen
     1. Click on the Start screen.

        <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
     2. Click [This PC] under “Windows System”.
4. **Right-click the CD/DVD drive, and click [Format].**
5. **Select the settings and click [Start].**
   - When the disc was recorded with Roxio Creator LJB and you want to record using Explorer, remove the check mark from [Quick Format].
   - It may take long time if you removed the check mark from [Quick Format].
   - Do not cancel formatting partway. Otherwise the disc may no longer accept writing.

CAUTION

- If you have written using Roxio Creator LJB, you cannot write using other software since the format becomes different. To make this possible, remove the check mark for [Quick format] on the format display and format the disc.

Notes During Use

If you have uninstalled Roxio Creator LJB accidentally

Reinstall it by following the steps below.

1. **Press ≪ ≫ + ≪R≫, input "c:\util\sonic_s" in [Open:], and press ≪Enter≫.**
2. **Right-click [setup] in [sonic_s] folder and click [Run as administrator].**
   If there are two or more “setup” files, right-click the file whose [Type] is [Application].
   Follow the on-screen instructions.
   - A standard user needs to enter an administrator password.

NOTE

- The serial number has been entered beforehand. Do not change the serial number entered. If you have accidentally changed, click [Cancel] to reinstall.

SUPPORT INFORMATION

- **About User Registration**
  Follow the steps below for user registration.
  1. While connected to the Internet, start up Roxio Creator LJB.
  2. Click [Help] - [Register Now] and follow the on-screen instructions.
- **If Roxio Creator LJB does not operate properly, we recommend carefully reading the online help file first for problems with the operating environment or operations.**
  If you still cannot troubleshoot the problem, contact Sonic Solutions.

  URL:
  English (U.S.): http://www.roxio.jp/enu/support/default.html
  English (U.K.): http://www.roxio.jp/eng/support/Default.html
  French: http://www.roxio.jp/fra/support/contact/
  German: http://www.roxio.jp/deu/support/
  Dutch: http://www.roxio.jp/nld/support/Default.html

PC Card / ExpressCard

You can insert the following cards.

<For model with ExpressCard slot>

Slot	For the model with ExpressCard	For the model without ExpressCard
A	ExpressCard/34 or ExpressCard/54	PC Card Type I (3.3 mm) or II (5.0 mm)
B	PC Card Type I (3.3 mm) or II (5.0 mm)	PC Card Type I (3.3 mm), II (5.0 mm) or PC Card Type III (10.5 mm)

<For model with Smart Card slot>
(Smart Card)

NOTE

- **The following types of card are not supported:**

  ZV card, SRAM card, FLASH ROM card (excluding ATA interface type), and other cards that require 12 V of operating voltage.
- **Do not start up Windows with a storage type of CardBus PC card attached. An error may occur.**

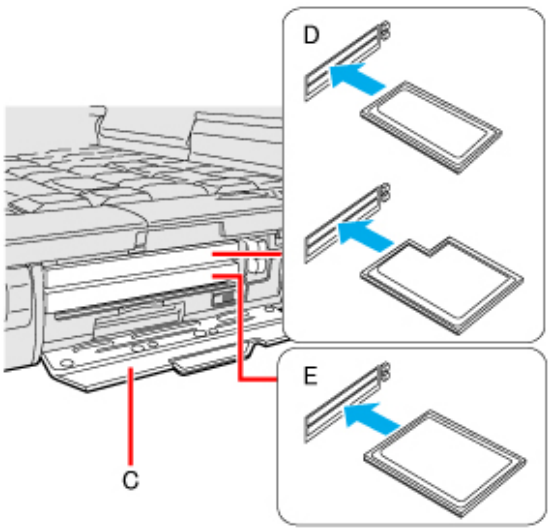
Inserting/Removing the Card

To insert the card

1. **Open the cover (C), and insert the ExpressCard (D)*1 or the PC Card (E) with the label side up until it securely fits in to the slot.**

   For further information, refer to the instruction manual of the card.

   *1 : Only for the model with ExpressCard
   For the model without ExpressCard, both of upper slot and lower slot are for PC Card.



To remove the card

1. **Disable the card function.**

   1. Click on the notification area and click .

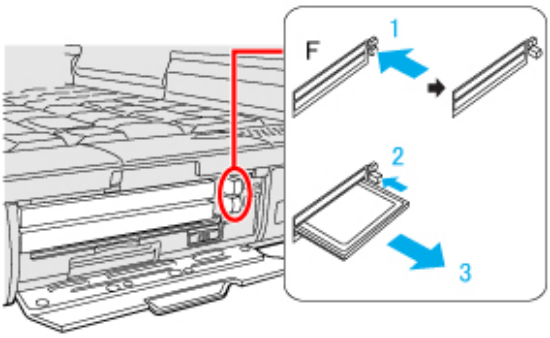
The notification area is available on the desktop screen.

2. Select the card.

- These steps are not necessary when:
  - Removing the card after turning off the computer.
  - is not displayed.
  - The card does not appear in the list.

2. **Open the cover and remove the card.**

1. Press the eject button (F). The eject button pops out.
2. Press the eject button (F) again so the card comes out of the slot.
3. Draw the card straight out.



NOTE

- **Check the card's specification to prevent the total operating current from exceeding the allowable limit.**
  Otherwise malfunction may occur.
  Allowable Current: 3.3 V: 400 mA, 5 V: 400 mA
- **Some types of cards cannot be used simultaneously.**
- **After repeating insertion and removal, some types of card will not be recognized. In this case, restart the computer.**
- **If the computer freezes after resuming from sleep or hibernation, remove and reinsert the card. If the problem persists, restart the computer.**
- **When a card is inserted, power consumption increases. Remove the card when it is not in use, especially when operating by battery power.**
- **To connect peripheral devices (SCSI, IEEE1394, etc.) using an ExpressCard, follow the steps below (one example).**

1. Connect the peripheral device to the card.
2. Turn on the power of device.
3. Insert the card until it surely fits in the slot.

SD Memory Card

SD Memory Card Information

- The SD Memory Card slot on this computer only accepts SD/SDHC/SDXC Memory Cards.
- To format the SD Memory Card on this computer, do not use [Format] of Windows, but use the SD Memory Card format software.
  You can download the software from the web site below.
  http://panasonic.jp/support/global/cs/sd/download/sd_formatter.html
- To use the SD Memory Card on other devices, format the card on the devices. For further information, refer to the instruction manual of the devices.

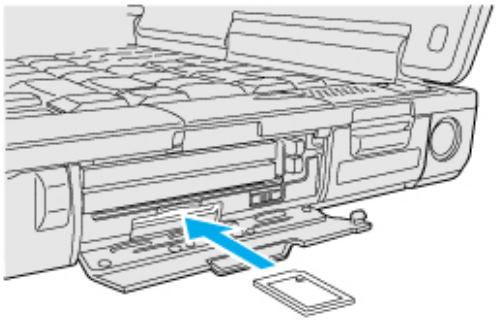
Inserting/Removing the SD Memory Card

CAUTION

- **Do not remove or insert the SD Memory Card until Windows has completed loading.**
- **Do not remove the card or turn off the computer in the following cases, otherwise the data may be corrupted.**
  - While the computer is in sleep or hibernation.
  - While the SD Memory Card indicator SD is on.
  - While data is being read from or written to the card.
  - Immediately after the writing operation. The computer may still continue the access to the card just after writing operation. If you remove the card before the operation is completed, the data may be damaged or the card access may no longer be performed normally.
- **Note that Panasonic assumes absolutely no liability for any loss of data recorded by the user, or any other damages, direct or indirect.**

To insert the card

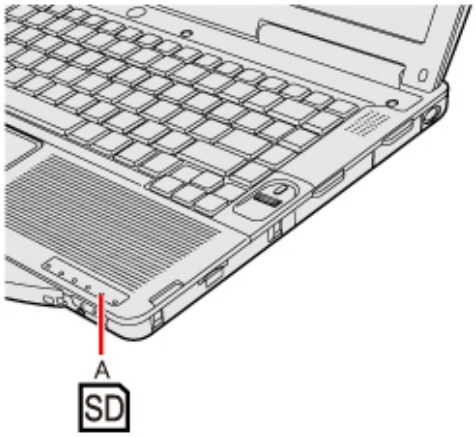
1. **Open the cover and insert the SD Memory Card with the label side facing up and with the cut corner facing in.**



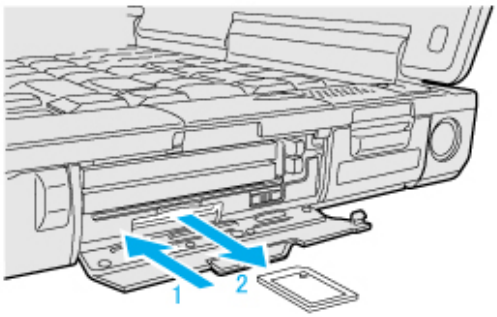
To remove the card

Preparation

- Save the data and close all applications.
- Open the cover and confirm the SD Memory Card indicator SD (A) is off.



1. **Disable the card function.**
    1. Click on the notification area and click .
    2. Select the card.
        - These steps are not necessary when:
            - Removing the card after turning off the computer.
            - is not displayed.
            - The card does not appear in the list.
2. **Remove the card.**
    1. Press the card so it comes out of the slot.
    2. Draw it straight out.



Smart Card

<Only for model with Smart Card slot(s)>
You need software to use a Smart Card.

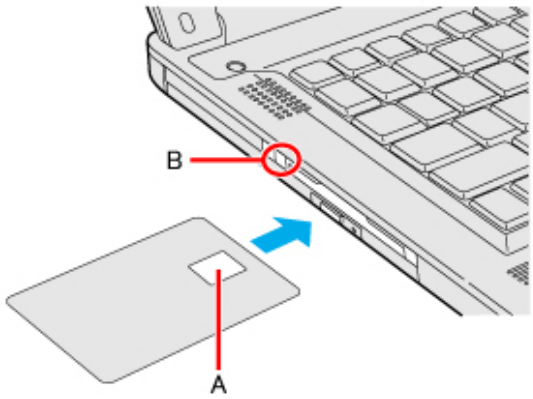
CAUTION

- **Do not:**
  - Hit, bend, or drop the card.
  - Touch the contact part with fingers or metal object.
  - Place the card in very hot location for a long time.
  - Remove the card immediately after inserting it.

Inserting/Removing the Smart Card

To insert the card

1. **Insert the Smart Card with the contact part (A) in front.**
   - Insert the card until it surely fits in the slot.



To remove the card

1. **Press the eject button (B).**

   The Smart Card pops out.

CAUTION

- Use the eject button to remove the card, otherwise the reading contact may be damaged.

RAM Module

Use RAM modules that comply with the specifications (*OPERATING INSTRUCTIONS* “Specifications”). Using any other module may cause malfunction or result in computer failure.
(For information on the RAM module compatibility, contact Panasonic Technical Support.)

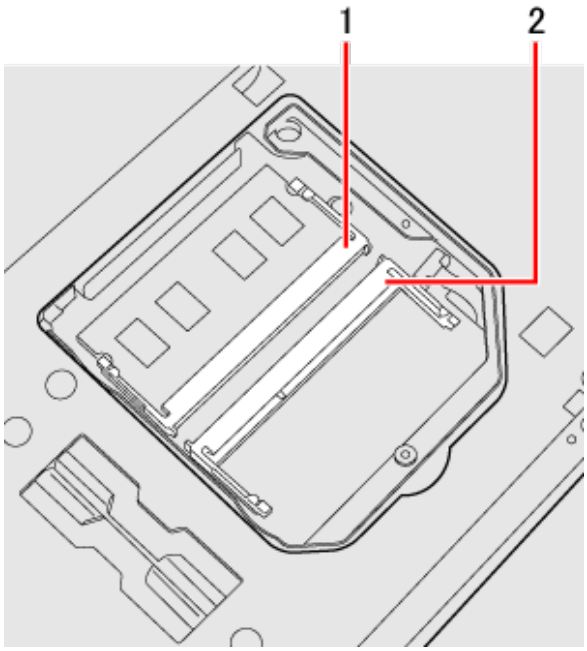
CAUTION

- RAM modules are extremely sensitive to static electricity and can be affected even by static electricity from the human body. When inserting and removing RAM modules, do not touch the terminals or internal components, and do not allow foreign particles to enter the slots. Doing so may cause damage, fire, or electric shock.

Inserting/Removing the RAM Module

This computer has 2 RAM module slots.

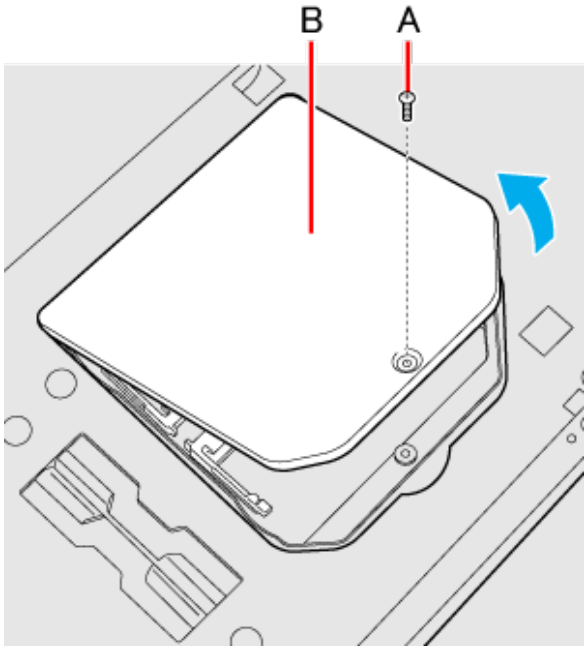
- At purchase, the RAM module is in SLOT: 1.
- When using an extra RAM module, insert it in SLOT: 2.



1. **Turn off the computer.**
   - Do not use sleep or hibernation.

     Perform the following steps to turn off the computer.

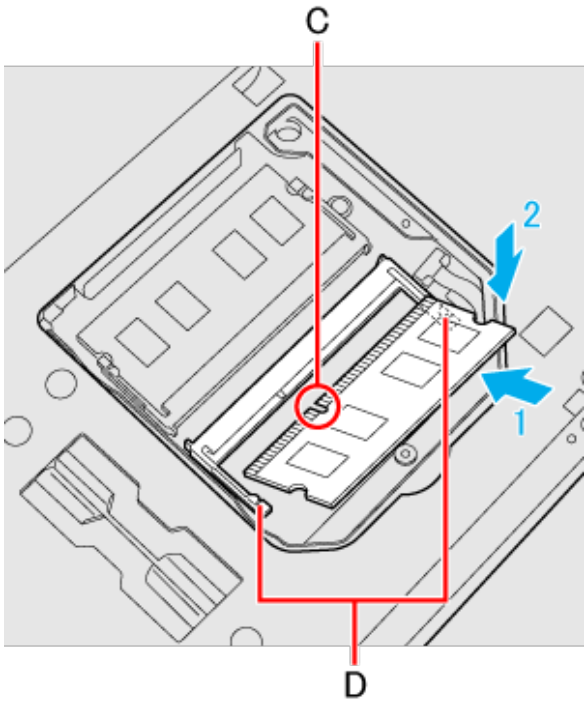
     1. Display “Charm”, and click - [Change PC settings] - [Update and recovery] - [Recovery].
     2. Click [Restart now] under “Advanced startup”.
     3. Click [Turn off your PC].
2. **Disconnect the AC adaptor, remove the battery pack. (** Replacing the Battery Pack**)**
3. **Remove the screw (A) and the cover (B) on the bottom of the computer.**



4. **Insert/Remove the RAM module.**

- To insert

  1. Align the cutout (C) with the projection, and tilt the module slightly and insert it in the slot.
  2. Press down the module so that the right and left hooks (D) are locked.

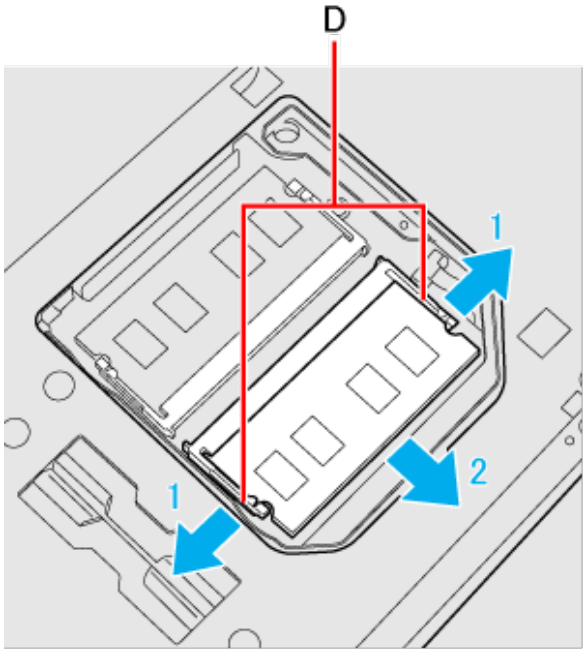


- To remove

  1. Carefully open the right and left hooks (D).

     The module will rise.

  2. Carefully remove the module from the slot.



5. **Set the cover and battery pack.**

CAUTION

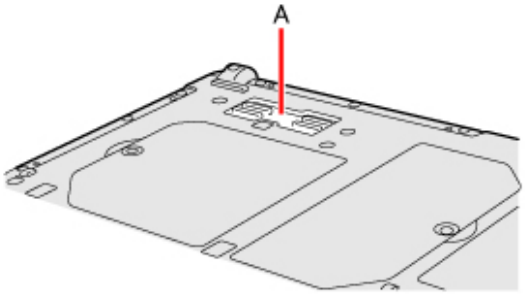
- Set the cover and battery pack correctly so that they do not fall when you carry the computer.

NOTE

- If it is hard to insert or to press down the RAM module, do not try forcibly but check the module's direction.
- Use the appropriate screw driver so as not to strip the thread of screw.
- If the RAM module is recognized correctly, the total size of the main unit memory and RAM module memory is displayed on the [Information] menu of the Setup Utility.
  If the RAM module is not recognized, power off the computer and insert it again.

Port Replicator

You can use an optional port replicator (CF-VEB531). This device frees you from being bothered by a lot of cable connections when you carry the computer. It also allows you to connect various peripherals.
Connect the port replicator to the expansion bus connector (A) on the bottom of the computer.
For further information, refer to the instruction manual of the port replicator.



CAUTION

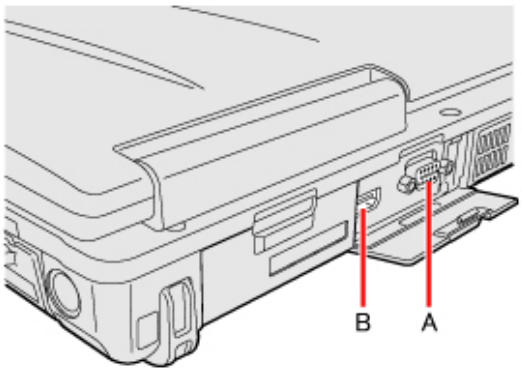
- **The driver of the port replicator is preinstalled in the computer.**
- **Make sure the slide cover is completely open.**
- **Hot or warm docking/undocking is not possible with the port replicator.**
- **To boot the computer from a USB floppy disk drive or a USB CD/DVD drive, be sure to connect the USB drive to the USB port on the computer, not to the USB port on the port replicator.**

NOTE

- **Use only the specified port replicator (CF-VEB531).**
- **Connect or disconnect the port replicator while the computer power is turned off.**

External Display

You can switch the output destination to an external analog display or HDMI display.
First push down and pull the cover to open the cover.
Connect the analog display to the VGA port (A).
Connect the HDMI display to the HDMI port (B).



Switching the display mode

Using key function

1. **Press ≪ ≫ key + ≪P≫ or ≪Fn≫ + ≪F3≫.**
2. **Click the display mode.**

Using Graphics Driver

1. **Right-click the desktop screen, and click [Graphics Properties].**

   The [Intel® HD Graphics Control Panel] screen appears.
2. **Select [Display].**
3. **Click [Multiple Displays] under “Display” at upper left.**
4. **Select the display mode.**

   Single: To display the image only on the internal LCD.
   Clone: To display the same image on both the internal LCD and an external display.
   Extended: To activate the extended mode.
   Collage: To spread the desktop area across displays automatically.
5. **Click [Apply].**

   Follow the on-screen instructions.

Using the [Screen Resolution] screen

1. **Start Dashboard for Panasonic PC, click [System], and then click [Change Settings] in the [Resolution] tile.**

   Alternatively, you can open "Screen Resolution" by the following procedure:
   Right-click the desktop screen, and click [Screen Resolution].
2. **Select the output destination at [Multiple Displays].**

   To display the screen only on the internal LCD, select [Show desktop only on 1].
   To display the same screen on the internal LCD and the external display, select [Duplicate these displays].
   To activate the extended mode (To switch the Extended Desktop), select [Extend these displays].
   To display the screen only on the external display, select [Show desktop only on 2] (when "1" is assigned to the internal LCD)

   If both an analog display and an HDMI display are connected, and when [Clone Displays] or [Extended Desktop] is selected, three displays can be selected at [Primary Display] and [Second Display]. [Digital Television XXXXXXXX] indicates the HDMI display, [Monitor XXXXXXXX] indicates the analog display, and [Built-in Display] indicates the internal LCD.
3. **Click [Apply].**

4. **Click [Keep changes] if a confirmation screen is displayed.**

NOTE

- **After switching the display mode, the display resolution may change.**
- **After resuming from sleep or hibernation, or restarting the computer, the output destination may not be the same as selected in the previous status.**
- **When you change the display after Windows starts up, do not press any key until switching is complete.**
- **Until Windows startup is completed (during Setup Utility, etc.), the simultaneous display cannot be used and pressing ≪Fn≫ + ≪F3≫ switches the display between the internal LCD and the external display.**
- **Do not connect or remove the external display during sleep or hibernation.**
- **It may take some time to switch between displays depending on the displays used.**
- **When you use the external display only, set the suitable number of colors, resolution, or refresh rate separately from when you use the internal LCD only or when you use the simultaneous display.**
  Depending on the settings, some external displays may be distorted or may not display the mouse pointer correctly. In this case, set the settings to lower value.
- **When you use the simultaneous display, DVD-VIDEO, MPEG files and other motion image files may not be played back smoothly.**
- **Carefully read the instruction manual of the external display.**
- **When connecting an external display that does not conform to the Plug & Play standards, select the display driver accordingly in the following menu, or use the driver disc supplied with the monitor.**

  1. Open the Control Panel, and then click [Adjust screen resolution] - [Advanced Settings] - [Monitor] - [Properties].

     To open the Control Panel, perform either of the following procedures.

     - For the Desktop screen

       1. Right-click at the bottom left corner of the Desktop screen.
       2. Click [Control Panel].

     - For the Start screen

       1. Click on the Start screen.

          <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

       2. Click [Control Panel] under "Windows System".

  2. Click [Driver] - [Update Driver].

- **If you connect an external analog display via the port replicator (CF-VEB531), the output switches to the port replicator from the VGA port on the computer. If a port replicator is connected to the computer, only one or the other of the HDMI connector on the computer and the HDMI connector on the port replicator can be used. If HDMI displays are connected to both HDMI connectors, the display connected to the HDMI connector on the port replicator will be used.**

CAUTION

- **Before disconnecting the external display, switch to the internal LCD by pressing ≪** **≫ key + ≪P≫ or ≪Fn≫ + ≪F3≫. Otherwise the displayed image quality may become different after disconnection (e.g., wrong resolution). In this case, press ≪** **≫ key + ≪P≫ or ≪Fn≫ + ≪F3≫ to reset the image quality.**
- **The screen may become distorted due to the following operations. In this case, restart the computer.**
  - Disconnecting an external display for which you have set high resolution or high refresh rate.
  - Connecting/disconnecting an external display during computer operations.

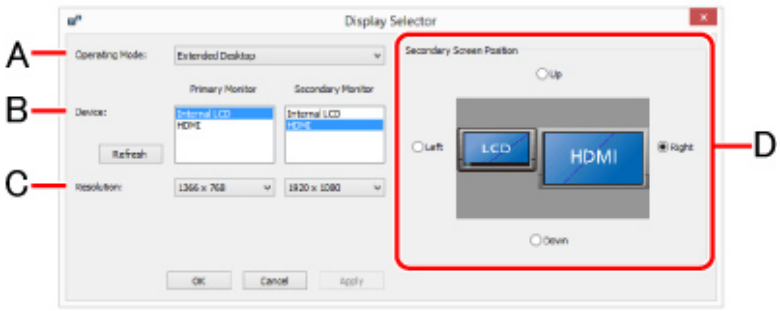
Display Selector

You can physically connect up to three external displays when using a port replicator, and two of the four displays (three external displays and the internal display) can be used at the same time.
When an external display is connected, you can use the simultaneous display function and the extended desktop function. The extended desktop function

allows you to use the working area across both the internal LCD and the external display. You can drag an object around the displays.

The Display Selector utility allows you to easily activate/deactivate the simultaneous display function and the extended desktop function.
It also allows you to set the scaling rate of an external HDMI display.

1. **Click on the Start screen, and then click [Display Selector] under "Panasonic".**
2. **Make the required settings.**



A. **[Operating Mode]**
Select [Single Display] to activate only one display.
Select [Extended Desktop] to activate the extended desktop function.
Select [Clone Displays] to activate two displays.
After making a selection, click [Apply]. The following settings can then be made.

B. **[Device]**
When [Extended Display] or [Clone Displays] is selected in [Operating Mode], select the displays to be used as the primary display and the secondary display.
When [Single Display] is selected, you can select only the primary display.

- Internal LCD: Internal LCD
- HDMI/Embedded HDMI: HDMI display connected to the computer
- Port Replicator HDMI: HDMI display connected to the port replicator
- VGA (Analog RGB): Analog display connected to either the computer or the port replicator

C. **[Resolution]**
Select the resolution of the display.
When [Extended Desktop] is selected in [Operating Mode], the resolution can be selected for the primary display and the secondary display independently.

D. **[Secondary Screen Position]**
When [Extended Desktop] is selected in [Operating Mode], specify the position of the secondary monitor by selecting [Up], [Down], [Left] or [Right].
The display image with the black frame and the taskbar indicates the primary device, and the other indicates the secondary device.

3. **Click [Apply] to enable the settings.**
4. **Click [OK].**

NOTE

- It may not be possible to use the extended desktop with some software applications.
- When you click the maximize button, the window is displayed on one of the displays.
  You cannot move the maximized window to the other display.
- When both an analog display and an HDMI display are connected, and if you select [Extended Desktop] or [Clone Displays], three output destinations (internal LCD, external analog display, and external HDMI display) can be selectable at both primary display and secondary display.
  In this case, the external analog monitor is referred to as “PC monitor” and the HDMI display is referred to as “Digital Television”.
- <Only for model with touchscreen>
  Set the internal LCD to the primary display when using the touchscreen. The cursor will move on the primary display when you touch the internal LCD.

To Switch the Extended Desktop

1. **Press ≪ ≫ + ≪P≫ or ≪Fn≫ + ≪F3≫.**
2. **Select [Extend].**

Alternatively, you can proceed as follows to switch the extended desktop.

1. **Right-click the desktop screen, and click [Graphics Properties].**

   The [Intel® HD Graphics Control Panel] screen appears.
2. **Select [Display].**
3. **Click [Multiple Displays] under “Display” at upper left.**
4. **Select [Extended].**
5. **Make the settings in [Select Active Displays].**
6. **Click [Apply].**

To Change the Display Settings

1. **Right-click the desktop screen, and click [Graphics Properties].**

   The [Intel® HD Graphics Control Panel] screen appears.
2. **Click [Display].**
3. **Set the display color and resolution etc.**
4. **Click [Apply].**
5. **Click [Yes].**

NOTE

- **It may not be possible to use the extended desktop with some software applications.**
- **When you click the maximize button, the window is displayed on one of the displays. You cannot move the maximized window to the other display.**
- **Do not use the display rotation in the extended desktop.**
- **To switch to the Extended Desktop, be sure to use the [Intel® HD Graphics Control Panel] screen. If you use other methods (e.g. display setting, etc.), the screen may not be displayed correctly.**
- **The pop-up displayed by ≪Fn≫ key combination appears only on the primary display.**
- **Set the internal LCD to the primary display when using the touchscreen (only for model with touchscreen). The cursor will move on the primary display when you touch the internal LCD.**

To Change the Sound Output Destination

When an HDMI display is connected, you can specify sound to be output via the speakers of the personal computer or via the speakers of the HDMI display.
Make sure your HDMI display is equipped with speakers.

1. **Open the Control Panel, and then click [Hardware and Sound] - [Sound].**

   To open the Control Panel, perform either of the following procedures.

   - For the Desktop screen

     1. Right-click at the bottom left corner of the Desktop screen.
     2. Click [Control Panel].
   - For the Start screen

     1. Click on the Start screen.

        <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
     2. Click [Control Panel] under "Windows System".
2. **Select the sound output destination.**
3. **If you have changed the sound output destination, click [Set Default], and then click [OK].**

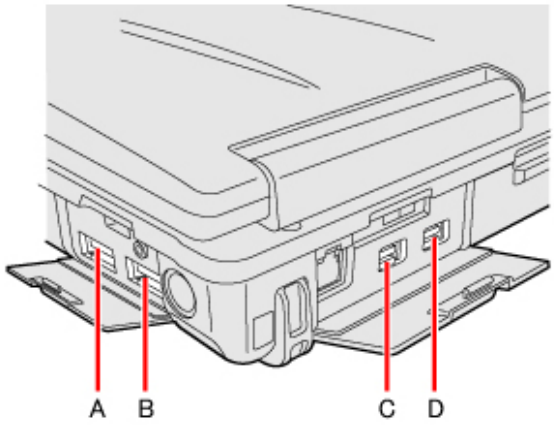
USB Devices

Connecting/Removing USB Devices

To connect the USB device

1. **Open the cover and connect the USB device to one of the USB ports (A),(B),(C) or (D) on the computer.**

   For further information, refer to the instruction manual of the USB device.
   The USB ports (A) and (B) support USB3.0.



To remove the USB device

1. **Disable the USB device.**
   1. Click on the notification area and click .
      The notification area is available on the desktop screen.
   2. Select the USB device.

   - These steps are not necessary when;
     - Removing the device after turning off the computer.
     - is not displayed.
     - The device does not appear in the list in step 2.

2. **Remove the USB device.**

NOTE

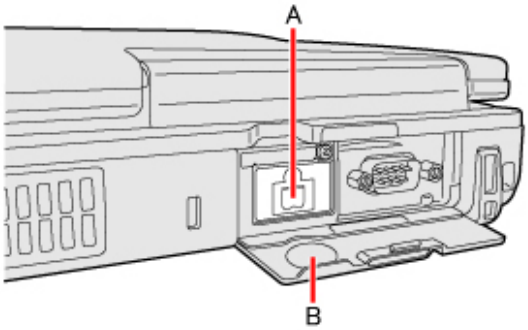
- You may need to install the driver for the USB device. Follow the on-screen instructions or refer to the instruction manual of the USB device.
- You may need to install the driver again when connecting the device to another port.
- When a USB device is connected, sleep or hibernation may not function normally. If the computer does not start up normally, remove the USB device and restart the computer.
- When the USB device is removed and then inserted while the computer is on, or may appear in the Device Manager and the device may not be correctly recognized. In this case, remove and connect the device again, or restart the computer.
- When a USB device is connected, power consumption increases. Remove the USB device when it is not in use, especially when operating by battery power.
- If the computer enters sleep while a USB keyboard or mouse is connected, touching the USB keyboard keys or mouse will resume the computer.

IEEE 1394 Devices

<Only for model with IEEE 1394 port>
You can connect a digital video camcorder or other IEEE 1394 standard device to the computer.

To connect IEEE 1394 device

1. **Turn on the computer and the IEEE 1394 device.**
2. **Open the cover and connect the IEEE 1394 device to the IEEE 1394 interface connector (A).**
   - For further information, refer to the instruction manual of the IEEE 1394 device.
   - If you connect this computer to a port replicator, remove (B)



NOTE

- **You may need to install the driver for the IEEE 1394 device. Follow the on-screen instructions or refer to the instruction manual of the IEEE 1394 device.**

To remove IEEE 1394 device

CAUTION

- **Turn off the IEEE 1394 device only after turning off the computer.**

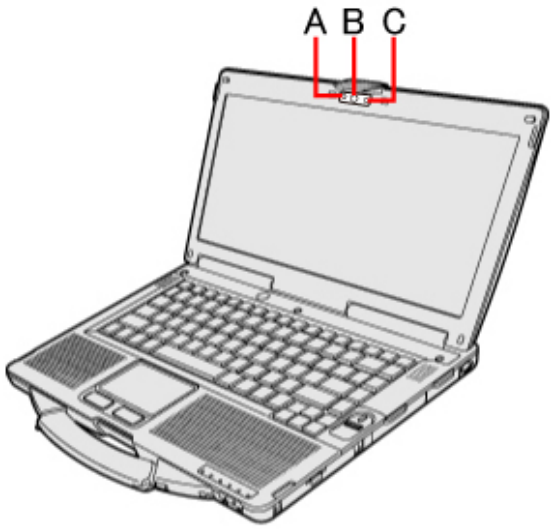
1. **Turn off the computer and disconnect the cable from the IEEE 1394 interface connector.**
2. **Turn off the IEEE 1394 device and remove the cable.**

Camera

<Only for model with Camera>

Description of Parts

- Camera Indicator (A)
- Camera Lens (B)
- Microphone (C)



Using the Camera

NOTE

- When the camera is in use, the Camera Indicator lights up. (Even if [Concealed Mode] is set to [Enabled] and [LED] to [OFF], the camera indicator can not be turned off.)
- When the computer is moved from hot and humid environment to low temperature environment, dew condensation may mist up inside the lens. This is not a malfunction. Wait until the lens dry.
- To use the camera for a specific purpose such as video conference, an application program prepared for the purpose is required.

To use the camera on the Desktop screen:
Follow the procedure below to open “Using the Camera Utility”.

1. Click on the Start screen.
2. Click [Camera Utility] under “Panasonic”.
   Camera Utility starts up.
3. Click [Help] - [View Help].

RFID Reader

<Only for model with RFID Reader>
You can read the data from RFID (Radio Frequency Identification) tags.

NOTE

- RFID Reader is typically used with specialized applications. For further information, ask the system administrator.

1. **Aim the center of RFID tag at the RFID Reader (A).**
   - Continue operation by using the specialized applications.

NOTE

- Operation distance depends on RFID tag.
- When a Smart Card is inserted, RFID reading time becomes longer.

Fingerprint Reader

<Only for model with Fingerprint Reader>

Precautions

For Security When Using Fingerprint Authentication

- Fingerprint authentication does not guarantee complete user authentication and identification. Please note that we cannot accept liability for any loss or damage incurred from your use or inability to use fingerprint authentication. Please be forewarned.
- We cannot accept liability for any loss of data due to malfunction of the fingerprint sensor.
- Registration may be impossible if there is insufficient fingerprint or other information to identify an individual.
- Interoperation with third-party software cannot be guaranteed.
- Fingerprint authentication can be performed using either fingerprint or password data. If you lose this data you may be unable to use this device, so store the data in a safe place.

Fingerprint Sensor Handling

- **Avoid the following. Failure to do so may result in malfunction or damage to the fingerprint sensor.**
  - Do not rub or scratch the sensor with hard materials or poke it with small pointed objects that could cause scratches.
  - Do not touch the surface with dirty fingers.
  - Do not soil or cover the sensor with a sticker.
- **In the following cases, fingerprint sensor sensitivity may be degraded, impeding or preventing authentication and registration.**
  - If the surface of the fingerprint sensor is soiled with dirt, skin oil, or sweat
  - If the surface of the fingerprint sensor is wet by moisture or condensation
  - If your finger is too wet or too dry
  - If your finger is wounded or inflamed
  - If your fingerprint grooves have become too shallow due to wear
  - If sliding too quickly or too slowly
  - If your finger is swollen, such as from bathing
  - If your fingerprint has changed due to weight loss or gain
- **Fingerprint sensor sensitivity may be restored by the following.**
  - Wipe the fingerprint sensor with a soft cloth.
  - Wash and wipe your hands.
  - Use another finger for registration and authentication.
  - If your finger is extremely dry, moisten it using hand cream.
- **Static electricity can cause the fingerprint sensor to malfunction. To discharge static electricity, touch a metal surface before touching the fingerprint sensor. Be especially careful about static electricity in the winter and in other dry conditions.**
- **When a faulty fingerprint sensor is repaired, previously saved passwords may be reset in the process. Please be forewarned.**

Setting a Password

If you forget your sign-in password you will be unable to use the device or Windows, so be absolutely certain that you will not forget it.

Fingerprint Authentication Function

Use fingerprint authentication to improve security and convenience by replacing the conventional password entry required to sign in to windows or provide authentication on websites.

- **The OS provides the fingerprint registration/authentication function.**

  If you use fingerprint authentication only to sign in to Windows, you do not need to install the Fingerprint Authentication Utility (DDS EVE FA Standalone for Panasonic). In that case, however, automatic sign in to websites using fingerprint authentication for verification is not available.

  The fingerprint authentication function of the OS can be used as follows.

  1. Display the Charms, and click - [Change PC settings] - [Accounts] - [Sign-in options] - [Fingerprint].

- **When fingerprints are registered with both the OS fingerprint authentication function and the Fingerprint Authentication Utility, authentication is performed by the Utility during Windows sign-in. (The OS's fingerprint information cannot be used.)**

Fingerprint Authentication Utility Features

- **Sign in fingerprint authentication**

  Use fingerprint authentication to unlock your computer and sign in to Windows.

- **Fingerprint enrollment tool**

  Use to register, update, and delete fingerprints.

- **Fingerprint authentication ID manager**

  Use fingerprint authentication to automatically sign in to websites that require a user ID and password, such as are displayed in Internet Explorer.

Fingerprint Authentication Initial Configuration

Preparations for Using Fingerprint Authentication

Use the following procedure for fingerprint authentication utility with this device.

Set up a Windows user account and password.

▼

Sign in to Windows with administrator rights, and set up the Fingerprint Authentication Utility (DDS EVE FA Standalone for Panasonic).

▼

Sign in with a user account that uses this device to register fingerprints.

Fingerprint Sensor Location

Step 1. Set up a user account and password.

If a user account for fingerprint authentication and a Windows sign-in password have already been set, skip to Step 2.
If a user account for fingerprint authentication has not yet been set, set up a new user account and password.

NOTE

- **There are two types of user account.**
  - Administrator
  - Standard user

    Some operations and settings are partially prohibited by standard user (restricted user) accounts.

Step 2. Set up the Fingerprint Authentication Utility (DDS EVE FA Standalone for Panasonic).

1. **Sign in to Windows with an account having Administrator rights.**

   If already signed in as a standard user, sign out and then sign in again with an account having Administrator rights.
2. **Close all other programs.**
3. **Press ≪ ≫ + ≪R≫, input "c:\util\fgrprint" in [Open:], and press ≪Enter≫.**
4. **Double click "FSAInstaller_XXXXXXXXXXXX".**
5. **Follow the on-screen instructions.**

   Click [Yes] when the confirmation message regarding replacement of the sign-in screen at Windows startup appears.
6. **Sign in after restarting.**

   If there are multiple users, select the one to sign in.
7. **Click "Sign-in options," click the key icon, enter your Windows password, and then click [→].**

Step 3. Register a Fingerprint

Step 3-1. Start registering fingerprints

If "Fingerprint not Enrolled" screen is displayed, click "Enroll".
When you click "Skip Enrollment", the Fingerprint Enrollment Tool can be started by the following procedure.

1. **Have the user whose fingerprint is to be registered sign in to Windows with their account.**
2. **Click in the notification area at the lower right of the desktop screen, and click and then click [Fingerprint Enrollment Tool].**

   The notification area is available on the desktop screen.

Step 3-2. Enter the Windows sign-in password.

When the "Fingerprint Enrollment Tool - User Enrollment" screen appears, enter the Windows sign-in password and click [Next].

Step 3-3. Register Fingerprint Data

1. **Click the button for a finger to be registered, and click [Next].**

NOTE

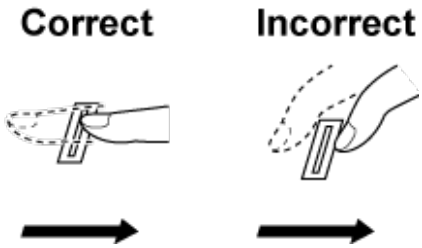
- **Register at least two fingers. That way, if by any chance one finger is injured, another can be used.**

2. **Enter fingerprints on the fingerprint sensor.**

   Enter each fingerprint at least three times. When the fingerprints are being registered, the "Progress" indicator lights green.
   When all three parts of the "Progress" indicator light green, the "Fingerprint authenticated normally" message appears.

CAUTION

- **To prevent scanning errors, pay attention to the following.**
  - Set the first joint of the finger you want to register on the fingerprint sensor so that the center of the fingerprint can pass over the center of the sensor.



- Slide the finger toward you while maintaining contact with sensor.
- Slide your finger until you can see the sensor.

- **In the following cases, the fingerprint sensor may fail to register or authenticate.**
  - Sliding too quickly or too slowly.
  - The finger is dirty or scarred.
  - The finger is too wet or too dry.

  See "Fingerprint Sensor Handling" for details.
- **In rare cases, features necessary for fingerprint authentication may not be detected.**

  In such cases, try registering another finger.
- **If pop-up or other messages appear on the desktop screen, fingerprint entry may be inhibited temporarily. In such cases, click outside of the Fingerprint Authentication window, then click again back inside it.**

3. **Click [Next], and register another finger using the same procedure as the first.**
4. **After registering the second finger, click "Finish".**

   To register more fingers, check "Add/change/delete a fingerprint", then click [Next] and repeat the same procedure.
5. **Click [OK].**

How to use the fingerprint authentication utility

See the online Help (EVE FA Standalone Help) installed with the device for more details on using the fingerprint authentication utility, troubleshooting, restrictions, and other info.
Use the following procedure to display the online Help (EVE FA Standalone Help).

1. Click on the Start screen, and then click [EVE FA Standalone Help] under "DDS".

Uninstalling the fingerprint authentication utility

Perform the following procedure to uninstall the device's fingerprint authentication utility.

1. **Open the Control Panel.**

   To open the Control Panel, perform either of the following procedures.
   - For the Desktop screen
     1. Right-click at the bottom left corner of the Desktop screen.
     2. Click [Control Panel].
   - For the Start screen
     1. Click on the Start screen.

        <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
     2. Click [Control Panel] under "Windows System".
2. **Click "Uninstall a program" in the Control Panel, double click "EVE FA Standalone for Panasonic (xxx) x.x.x.xxxxx" in the program list.**

   (x.x.x.xxxxx indicates the version number)
   Follow the on-screen instructions.
3. **If you want to be able to use the user authentication data in the future, select [No] when the “Do you delete all the data such as registered fingerprint information?” message appears. Otherwise, select [Yes] to completely delete the authentication data.**

4. **Follow the on-screen instructions.**

Modem

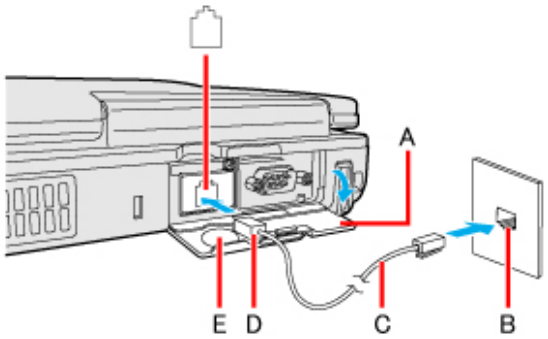
<Only for model with Modem>

Connecting the Internal Modem with a Telephone Jack

CAUTION

- Use a surge protector since the modem may be damaged by a sudden high voltage surge that may occur in the event of a lightning strike.

1. **Open the cover (A), and connect the computer and the telephone jack (B) using the telephone cable (C).**
   - Hold the cable so that the shape of the connector (D) matches the port, and insert fully until it clicks.
   - If you connect this computer to a port replicator, remove (E).



2. **Open the Control Panel, and then click [Connect to the Internet] - [Dial-up].**
   To open the Control Panel, perform either of the following procedures.
   - For the Desktop screen
     1. Right-click at the bottom left corner of the Desktop screen.
     2. Click [Control Panel].
   - For the Start screen
     1. Click on the Start screen.

        <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
     2. Click [Control Panel] under "Windows System".
3. **Change the settings as necessary.**

NOTE

- Do not enter sleep or hibernation during communications.
- To remove the cable, press and hold the lever and pull out.

Ring Resume Function

The computer automatically resumes from sleep when the telephone connected to the modem rings.
You will need software to keep the computer in idle state waiting for a phone call, and if you prefer, to turn the computer to sleep again afterward. For further information, refer to the instruction manual of the software application.

To enable this function

1. **Click [Windows Fax and Scan].**
    1. Display “Charm” and click .
    2. Input “Fax”, then click [Windows Fax and Scan].
2. **Click [Tools] - [Fax Settings].**
    - A standard user needs to enter an administrator password.
    - Check whether the modem you are using is displayed in Device name. If not, click [Select fax device] and select the correct modem.
3. **Add a check mark for [Allow the device to receive fax calls] and click [OK].**
4. **Perform either of the following procedures.**
    - For the Desktop screen
        1. Right-click at the bottom left corner of the Desktop screen.
        2. Click [Device Manager].
    - For the Start screen
        1. Click on the Start screen.

           <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
        2. Right-click [This PC] under “Windows System”.
        3. Click [Properties] - [Device Manager].
5. **Double-click [Modems], and then double-click the internal modem.**
6. **Click [Power Management] and add a check mark for [Allow this device to wake the computer], and then click [OK].**

To set the time to return the computer to sleep

The computer will enter sleep after the set time even when the communication is not completed. You can avoid such uncompleted communication if you select [Never], but the computer does not return to sleep after resuming by a phone call.

1. **Click or on the notification area and click [More power options] - [Change when the computer sleeps].**
   The notification area is available on the desktop screen.
2. **Set the expected communication time for the sleep setting.**

NOTE

- This function does not work when the computer is off or in hibernation.
- Connect the AC adaptor.
- The screen remains dark after the computer resumes from sleep. The previous screen display will be restored when you touch the keyboard, touch pad, screen.
- The computer cannot resume if the telephone is not connected to the internal modem. (e.g., you cannot use an ExpressCard modem.)
- The computer needs some time to respond, so set the calling time longer than normal. If this is not possible on the transmission side, reduce the number of rings before answering on the software that you are using to keep the computer in idle waiting for the call.

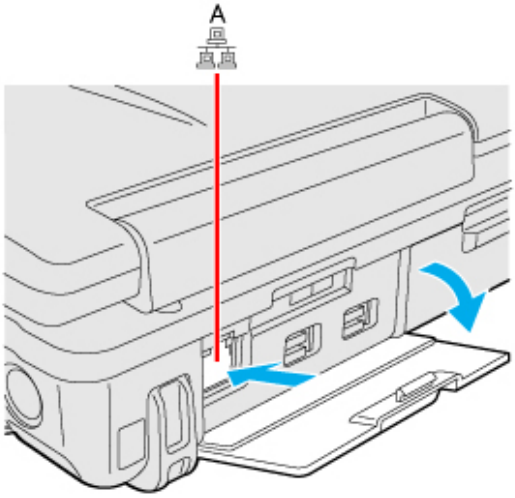
LAN

Connecting LAN

CAUTION

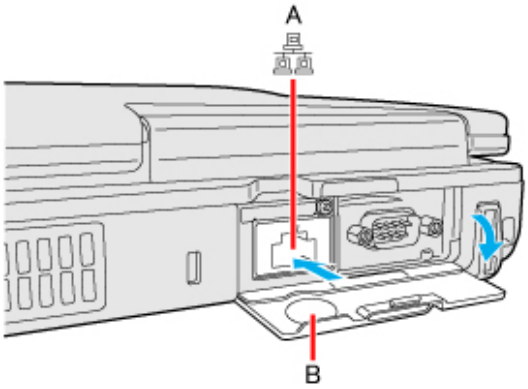
- Do not connect the telephone cable to the LAN port.

1. **Turn off the computer.**
   - Do not use sleep or hibernation.
2. **Open the cover and connect the cable.**
   - Connect the LAN port (A) and the network system (server, HUB, etc.) using a LAN cable.



<only for model with 2nd LAN>

- If you connect this computer to a port replicator, remove (B).



3. **Turn on the computer.**

To check the Local Area Connection status

1. **Open the Control Panel, and then click [View network status and tasks].**

   To open the Control Panel, perform either of the following procedures.

   - For the Desktop screen
     1. Right-click at the bottom left corner of the Desktop screen.

2. Click [Control Panel].

- For the Start screen

1. Click on the Start screen.

<Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

2. Click [Control Panel] under "Windows System".

Power On by LAN function

NOTE

- **When these functions are enabled, power is consumed even if the computer is in sleep, hibernation, or powered off. Be sure to use the AC adaptor.**
- **The input of the password set up by the Setup Utility is unnecessary.**
- **The Power On by LAN function is off under the following conditions:**
  - When you turn the computer off by pressing the power switch for 4 seconds or longer (e.g., after a hung-up).
  - When you reattach the AC adaptor and battery pack to the computer after removing them.
- **The screen remains dark when the computer resumes from sleep. The previous screen display will be restored when you touch the keyboard, touch pad or touchscreen (only for model with touchscreen).**

Enabling the Power On by LAN function

The computer automatically turns from off to on when the computer is accessed from the network server via the internal LAN port.

CAUTION

- **The Power On by LAN function is enabled when you turn off the computer by the following steps.**

1. Display “Charm”, and click - [Change PC settings] - [Update and recovery] - [Recovery].
2. Click [Restart now] under “Advanced startup”.
3. Click [Turn off your PC].

- **If you turn off the computer while the fast startup function is enabled, the Power On by LAN function is disabled. (** About Fast startup**)**

1. **Select [Allow] in [Power On by LAN] in the [Advanced] menu of the Setup Utility.**
2. **In [Caution], press ≪Enter≫.**
3. **Press ≪F10≫, and then select [Yes] and press ≪Enter≫.**
4. **Sign in to Windows as an administrator.**
5. **Perform either of the following procedures.**

- For the Desktop screen

1. Right-click at the bottom left corner of the Desktop screen.
2. Click [Device Manager].

- For the Start screen

1. Click on the Start screen.

<Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.

2. Right-click [This PC] under “Windows System”.
3. Click [Properties] - [Device Manager].

6. **Double-click the Ethernet device under “Network adapters”, and then click [Advanced].**
7. **Click [Enable PME] in “Property” and select [Enabled] in “Value”, and then click [OK].**

NOTE

- **The computer may accidentally turn on if the linkage status is changed. To prevent the accidental startup, make the setting by the following steps.**
  1. Perform either of the following procedures.
     - For the Desktop screen
       1. Right-click at the bottom left corner of the Desktop screen.
       2. Click [Device Manager].
     - For the Start screen
       1. Click on the Start screen.

          <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
       2. Right-click [This PC] under “Windows System”.
       3. Click [Properties] - [Device Manager].
  2. Double-click the Ethernet device under “Network adapters”, and then click [Advanced].
  3. Click [Wake on Magic Packet] in [Property] and select [Enabled] in [Value], and then click [OK].
- **If you forcibly shut down Windows, the Power On by LAN function will not work.**

<Only for the model with 2nd LAN>

- **The 2nd LAN port does not support the Power On by LAN function.**

Wake Up from wired LAN function

When the Wake Up from wired LAN function is enabled, the computer automatically resumes from sleep or hibernation when the computer is accessed from the network server via the internal LAN port. (Default setting)

Setup

1. **Click on the notification area and click .**
   The notification area is available on the desktop screen.
2. **Click [Extension settings - Edit].**
3. **Click the name of Power Plan and click the Power Plan you wish to set.**
   [Active] is displayed for the current power plan.
4. **Double-click [Wired LAN's power while sleeping] to show the list, and change the setting.**
   - Clicking [Off] will disable the Wake Up from wired LAN function because the wired LAN is turned off in Sleep state for power saving.
   - Clicking [On] will enable the wired LAN Wake Up function.
5. **Click [OK].**
   The setting is complete.

<Only for model with 2nd LAN>

The 2nd LAN port does not support the Wake Up from wired LAN function.

NOTE

- The setting made is enabled after restarting the computer.
- The [Wired LAN's power while sleeping] setting is linked with the power plan. Thus, switching the power plan may change the setting. Set [Wired LAN's power while sleeping] in another power plan if necessary.

Disabling/Enabling Wireless Communication

<Only for model with wireless LAN, Bluetooth, wireless WAN, and/or GPS>

There are several ways of disabling and enabling wireless communication.

- The wireless switch on the front of the computer
- Using airplane mode
- Setting [Wireless Configuration] in the [Advanced] menu of the Setup Utility
- Settings in the Network and Sharing Center (Using the Wireless LAN Function)

NOTE

- For further information about Wireless LAN.
- For further information about Bluetooth.
- For further information about Wireless WAN.

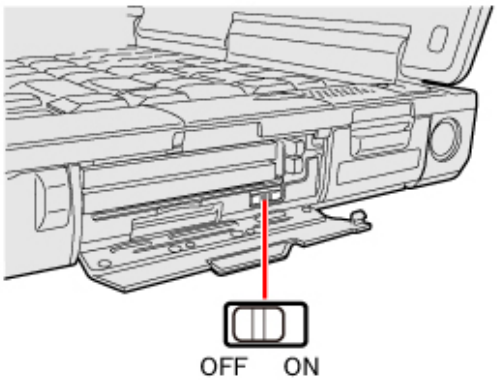
The Wireless Switch

To disable all wireless communication

1. **Open the cover, and slide the switch to OFF.**

To enable wireless communication

1. **Switch to ON.**



NOTE

- Do not turn on/off the switch repeatedly at too short intervals.
- Do not restart, log off, or enter sleep or hibernation immediately after turning on/off the switch.
- Do not turn on/off the switch while Windows is starting up.
- To use wireless communication, set the wireless devices ([Wireless LAN] / [Bluetooth] / [Wireless WAN] / [GPS] of [Wireless Configuration]) to [Enabled] (default) in the [Advanced] menu of the Setup Utility (Wireless Configuration).
- It may take some time to turn off wireless communication after switching the wireless switch off.

Using airplane mode*1

(For wireless LAN, wireless WAN, Bluetooth, and GPS)

1. **Display “Charm”, and click - [Change PC Settings] - [Network] - [Airplane mode] *1.**

2. **To disable wireless communications, set [Airplane mode]*1 to [On].**
   To enable wireless communications, set [Airplane mode]*1 to [Off], and then;

   - set [Wi-Fi]*1 to [On] (for wireless LAN).
   - set [Mobile Broadband] to [On] (for wireless WAN).
   - set [GPS] to [On] (for wireless WAN).
   - set [Bluetooth] to [On] (for Bluetooth).
   - set [GPS/GNSS] to [On] (for GPS).

*1 : Screen messages are explained in [English (United States)].
(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode]/[WiFi] may be displayed instead of [Airplane mode]/[Wi-Fi] in some language preference.)

Wireless LAN

<Only for model with wireless LAN>

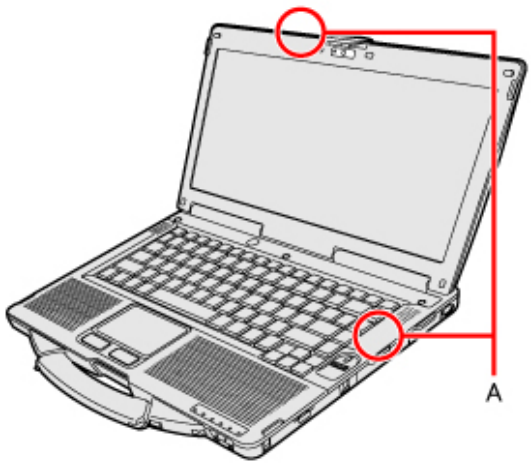
CAUTION

- **Do not use wireless LAN on airplanes, in hospitals, or in other locations where wireless LAN signals may affect devices.**
  Follow the instructions of airline companies and hospitals. If you use the computer in these locations, turn off the wireless LAN.
- **To avoid unauthorized access to the computer through wireless LAN**
  We recommend you to make security settings such as encryption before using wireless LAN.
  Otherwise the hard disk data such as the shared files can be exposed to the risk of unauthorized access.

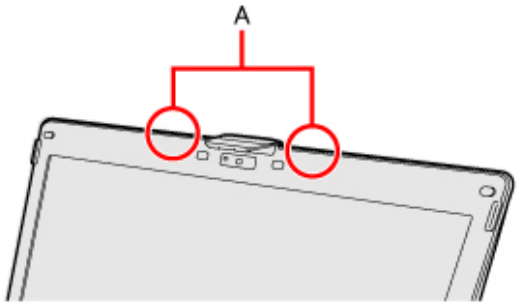
NOTE

- Communication is established through the wireless LAN antenna (A). Do not block the antenna area with your hand or body.

  <For model with GPS>



  <For model without GPS>



- When you connect this computer to a port replicator compatible with external antenna, you can switch the internal antenna to the external antenna, or vice versa.

  (Wireless Antenna Switching)
- The transmission rate will be lower when a microwave oven is used near by.
- To use wireless LAN, set [Wireless LAN] of [Wireless Configuration] to [Enabled] (default) in the [Advanced] menu of the Setup Utility.
- It may take some time to turn off wireless LAN after switching the wireless switch to off.

Using the Wireless LAN Function

Before using a wireless LAN, turn the wireless LAN communication on.

Turning on/off the wireless LAN communication

1. To enable the wireless communication (Disabling/Enabling Wireless Communication).

Setting the wireless LAN access point

Preparation
Follow the instruction manual of the wireless LAN access point to make settings for the access point to recognize the computer.

1. **Turn the wireless LAN on.**
2. **Click or on the notification area.**
   The notification area is available on the desktop screen.
3. **Select an access point, and click [Connect].**
4. **Input the key you set for the access point to recognize the computer, and click [Next].**
   At the confirmation message, select [Yes].
   Wait for the computer to connect to the wireless LAN access point.
   When the icon on the notification area is changed to , the wireless LAN setting is complete.

NOTE

- **The settings depend on the network environment. For further information, ask the system administrator or the person in charge of the network.**
- **If you use the stealth type wireless LAN access point which restricts automatic detection of the wireless LAN access point, take the following procedure.**
  If you do not perform the procedure below, you may not be able to access the wireless LAN access point automatically or the wireless LAN access point may not be displayed on the [Connect to a network] screen.
  1. Right click or on the notification area, click [Open Network and Sharing Center] - [Set up a new connection or network] - [Manually connect to a wireless network] and click [Next].
  2. Input necessary information and add check marks for [Start this connection automatically] and [Connect even if the network is not broadcasting] and click [Next].

Enabling/Disabling the Wireless LAN Standard IEEE802.11a (802.11a)

1. Click on the notification area and click (Wireless Toolbox).
2. Click [802.11a Enabled] or [802.11a Disabled].

NOTE

- In some countries, communication using IEEE802.11a (5 GHz wireless LAN) standard is restricted by law.
- If IEEE802.11a is enabled or disabled while the computer is connected to an IEEE802.11b/g access point, the connection will be temporarily interrupted.

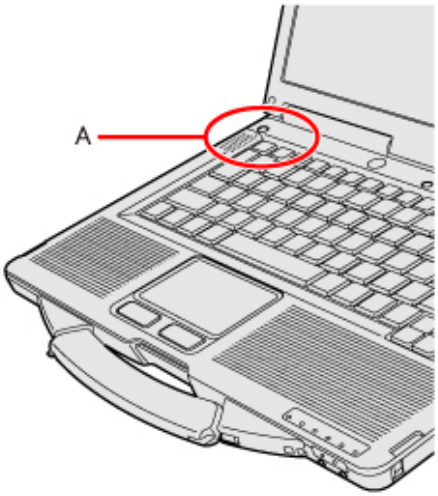
Bluetooth

<Only for model with Bluetooth>

You can access internet and other Bluetooth devices without connecting cables.

NOTE

- Communication is established through the Bluetooth antenna (A). Do not block the antenna area with your hand or body.



- To use Bluetooth, set [Bluetooth] of [Wireless Configuration] to [Enabled] (default) in the [Advanced] menu of the Setup Utility.
- The transmission rate will be lower when a microwave oven is used near by.
- When you uninstall the Bluetooth Driver, turn Bluetooth off.

Using the Bluetooth Function

Before using a Bluetooth, turn the Bluetooth communication on.

Turning on/off the Bluetooth communication

1. **To enable the wireless communication (** Disabling/Enabling Wireless Communication**).**
2. **Display “Charm”, and click - [Change PC Settings] - [Network] - [Airplane mode][*1], and set [Airplane mode][*1] to [Off].**

   To turn off the Bluetooth communication, set [Bluetooth] to [Off].
   To turn on the Bluetooth communication, set [Bluetooth] to [On].

   *1 : Screen messages are explained in [English (United States)].
   (Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode] may be displayed instead of [Airplane mode] in some language preference.)

To check the Bluetooth communication status

1. **Display “Charm”, and click - [Change PC Settings] - [PC and devices] - [Bluetooth].**

To access the online manual

1. **Click on the Start screen, and then click [Help and Support] under "Windows System".**
2. **Search "Bluetooth".**

NOTE

- Access [Help and Support] online.

Wireless WAN

<Only for model with wireless WAN >

This computer is equipped with the Wireless WAN enabling you to communicate using radio frequencies.

Inserting/Removing a SIM Card

Before using the Wireless WAN, set a SIM card to the SIM card slot.

CAUTION

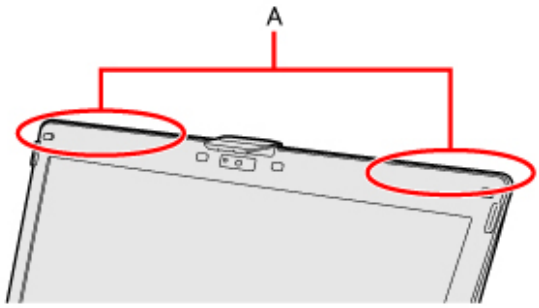
- **Be sure to turn off the computer before inserting or removing the SIM card.**

  Perform the following steps to turn off the computer.

  1. Display “Charm”, and click - [Change PC settings] - [Update and recovery] - [Recovery].
  2. Click [Restart now] under “Advanced startup”.
  3. Click [Turn off your PC].

NOTE

- **Communication is established through the Wireless WAN antenna (A). Do not block the antenna area with your hand or body.**

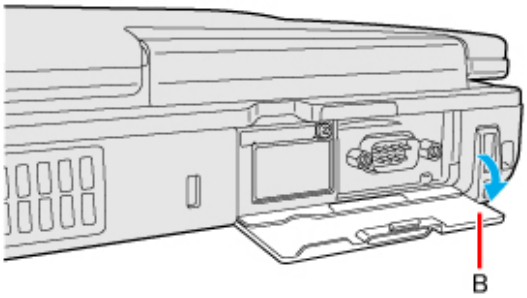


- **To use wireless WAN, set [Wireless WAN] of [Wireless Configuration] to [Enabled] (default) in the [Advanced] menu of the Setup Utility.**
- **Before the computer enters sleep or hibernation, cut the Wireless WAN communication. Entering sleep or hibernation without cutting the connection may disable communication after resuming. In this case, restart the computer.**
- **If the computer repeatedly enters sleep, connection using Wireless WAN Manager may become impossible. In this case, restart the computer.**
- **If "Device driver software was not installed correctly." (or a similar message) appears when starting the computer or resuming from sleep or hibernation.**
  - When communication works normally, Wireless WAN is operating correctly.
  - If communication fails, the device may not be recognized correctly. In this case, restart the computer.
- **When you connect this computer to a port replicator compatible with external antenna, you can switch the internal antenna to the external antenna, or vice versa.**

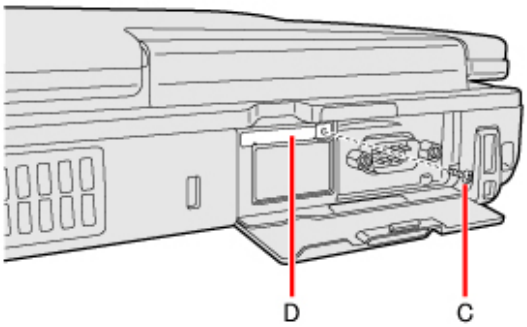
  (Wireless Antenna Switching)

To insert a SIM card

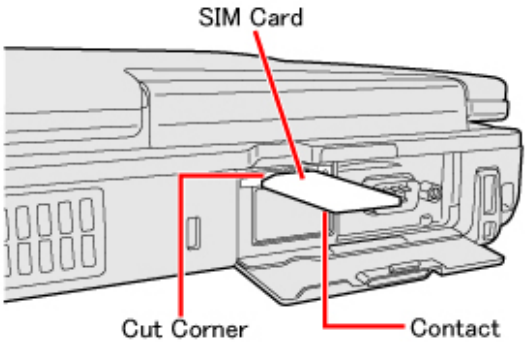
1. **Turn off the computer.**
2. **Disconnect the AC adaptor, remove the battery pack, and wait for about 3 minutes.**
3. **Open the cover (B).**



4. **If there is a cover (D), remove a screw (C) and then remove the cover (D).**



5. **Insert the SIM card into the SIM card slot with the contact side facing down and the cut corner facing forward.**



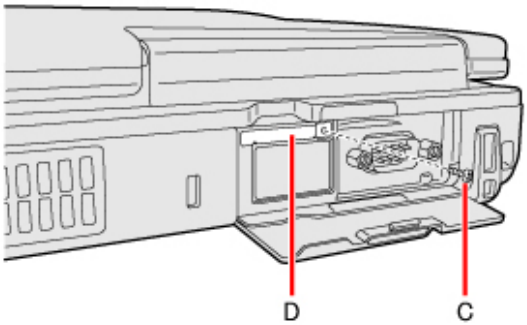
CAUTION

- Do not insert the SIM card upside down.

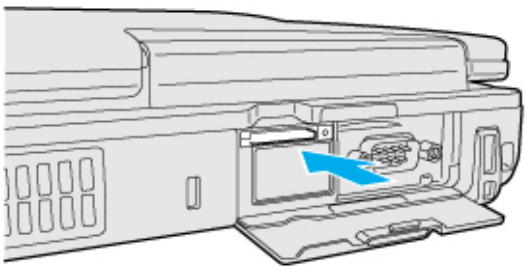
6. **If there was the cover (D), attach the cover (D) and tighten the screw (C) firmly.**
7. **Close the cover (B).**
8. **Insert the battery pack and connect the AC adaptor.**

To remove a SIM card

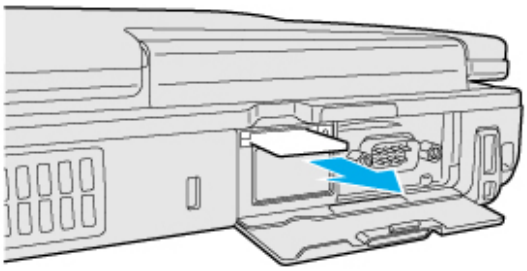
1. **Turn off the computer.**
2. **Disconnect the AC adaptor, remove the battery pack, and wait for about 3 minutes.**
3. **If there is a cover (D), remove a screw (C) and then remove the cover (D).**



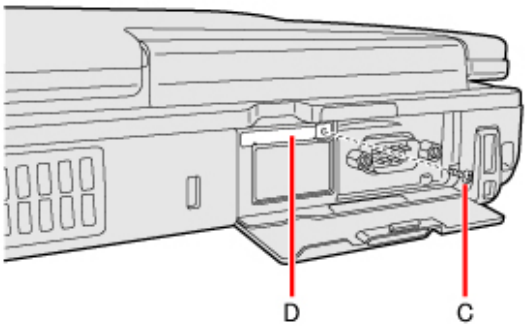
4. **Push the card.**
   It will come out of the slot a little bit.



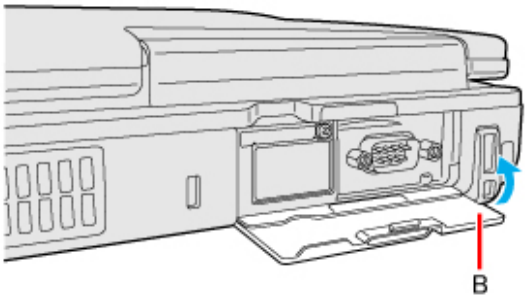
5. **Pull the card all the way out.**



6. **If there was the cover (D), attach it and tighten the screw (C) firmly.**



7. **Close the cover (B).**



8. **Insert the battery pack and connect the AC adaptor.**

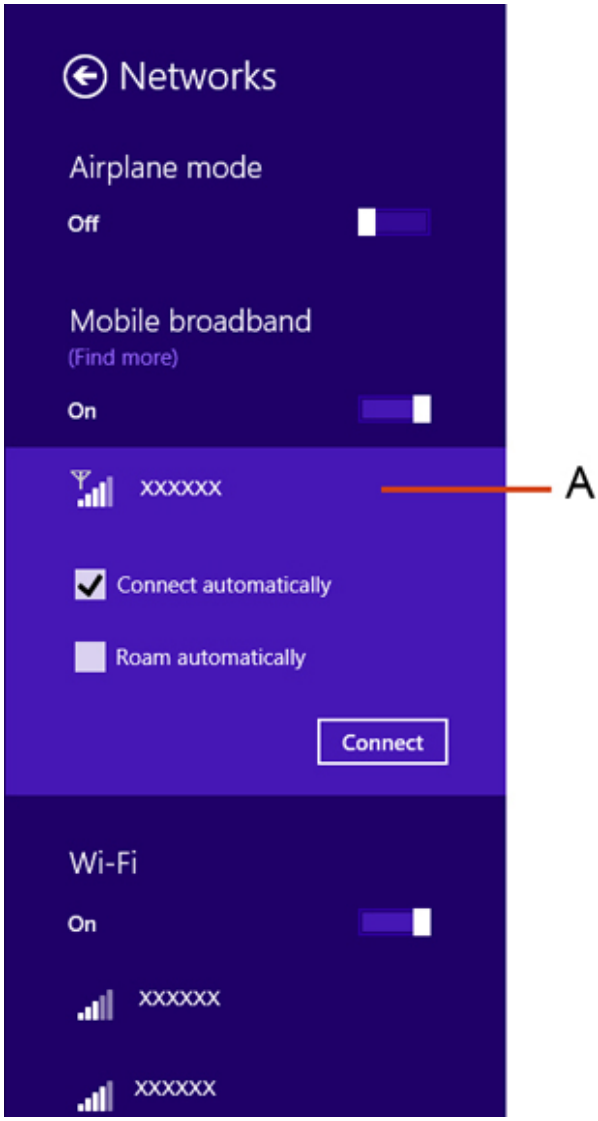
Connecting to a network

1. **Connect to an ISP.**

1. Display “Charm”, and click - [Change PC settings] - [Network] - [Airplane mode].

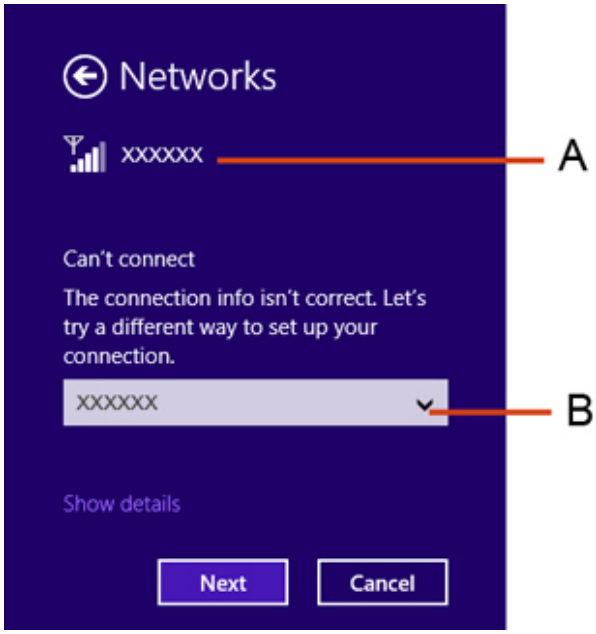
2. Set [Airplane mode] to [Off], and [Mobile broadband] to [On].

3. Click [Connect] of the ISP (A) under “Mobile broadband”.
(Depending on the ISP, connection will automatically be established. In this case, the following steps are not necessary to proceed.)

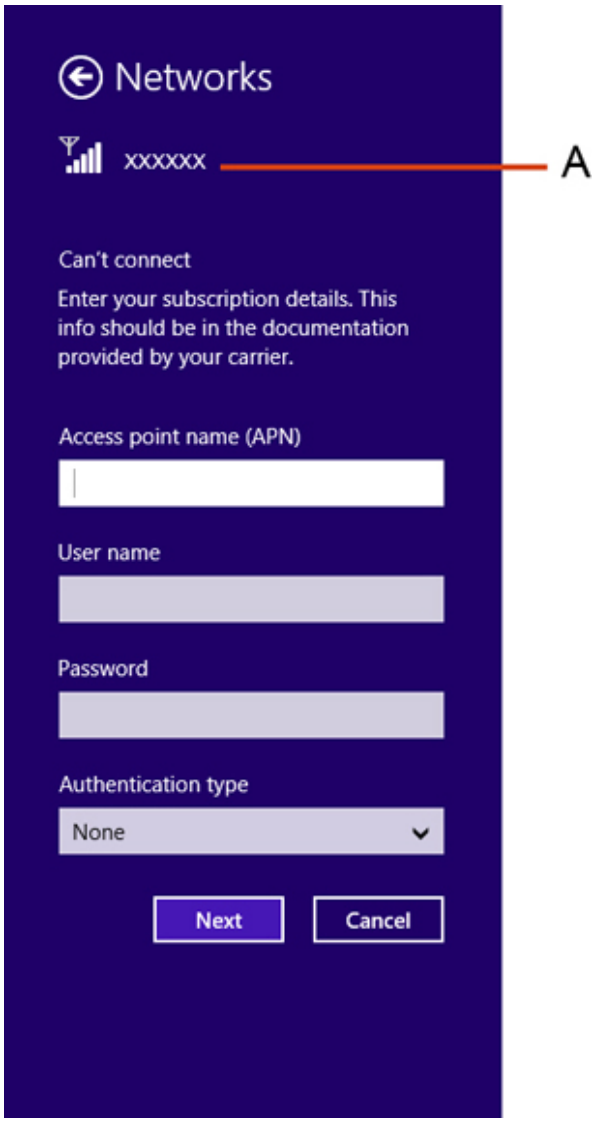


2. **If connection is not established, perform the following operations.**

- If a connection service (B) is displayed, select it, and click [Next].
(Click [Show details] to view the detailed information.)



- If a connection service (B) is not displayed, input detailed information such as APN, and click [Next].



Setting ISP information

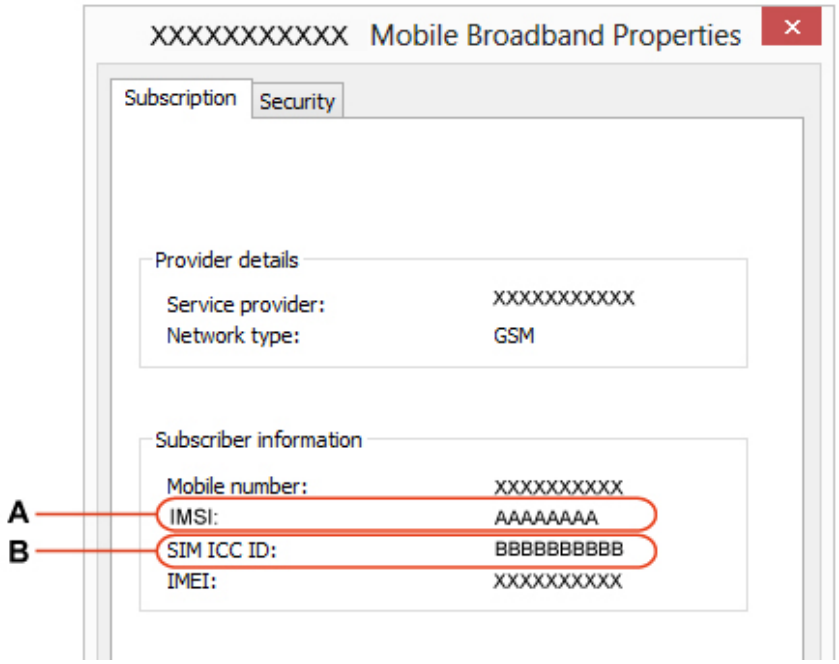
For some internet service providers, they may be specified the "PAP" or "CHAP" as authentication protocol.

In this case, perform the following steps.

Preparation

- Insert a SIM card.
- Turn on the Wireless function. (Using airplane mode)
- Perform the following procedure within the communication area .

1. **Check IMSI and SIM ICC ID.**
    1. Click on the notification area on the desktop screen.
    2. Right click the name of your mobile broadband network, and click [View connection properties].
    3. Check "IMSI" (A) and "SIM ICC ID" (B).



2. **Check your ISP information (APN, UserName, Password, Authentication Protocol).**
   A UserName and a Password may not be specified.
3. **Created a XML file and save in arbitrary folder.**
   (Example c:\tmp\a.xml)
   Add the following contents.

```
<?xml version="1.0"?>
<MBNProfile xmlns="http://www.microsoft.com/networking/WWAN/profile/v1">
<Name>Profile</Name>
<IsDefault>true</IsDefault>
<SubscriberID>AAAAAAAA</SubscriberID>
<SimIccID>BBBBBBBBBB</SimIccID>
<Context>
<AccessString>APN</AccessString>
<UserLogonCred>
<UserName>USERNAME</UserName>
<Password>PASSWORD</Password>
</UserLogonCred>
<AuthProtocol>CHAP</AuthProtocol>
</Context>
</MBNProfile>
```

Change the settings.
SubscriberID: Replace the "IMSI". (Step 1)
SimIccID: Replace "SIM ICC ID". (Step 1)
AccessString: Replace "APN". (Step 2)
UserName: Replace "UserName". (Step 2)
When a UserName is not specified, delete this line.

Password: Replace "Password". (Step 2)
When a Password is not specified, delete this line.
AuthProtocol: Replace "Authentication Protocol". (Step 2)

When the XML file is already been created, click [Forget this network].

1. Click on the notification area on the desktop screen.
2. Right click the name of your mobile broadband network, and click [Forget this network].

4. **Execute the following command by "Command Prompt".**

```
netsh mbn add profile interface="Mobile broadband" name="c:\tmp\a.xml"
```

To open "Command Prompt":

1. Perform either of the following procedures.
   - For the Desktop screen
     1. Right-click at the bottom left corner of the Desktop screen.
     2. Click [Command Prompt].
   - For the Start screen
     1. Click on the Start screen.

        <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
     2. Click [Command Prompt] under “Windows System”.

Hard Disk Drive

Inserting/Removing the Hard Disk Drive

To change your hard disk drive, contact Panasonic Technical Support.

CAUTION

- Back up all the important data before removing the hard disk drive.
- If you need to read the hard disk data on another computer for repair or any other purpose, set [Hard Disk Lock] to [Disabled] in the [Security] menu of the Setup Utility before removing the hard disk drive.
- Carefully remove/insert the hard disk drive since the hard disk drive is extremely sensitive to shock. Note that static electricity may affect some internal components.

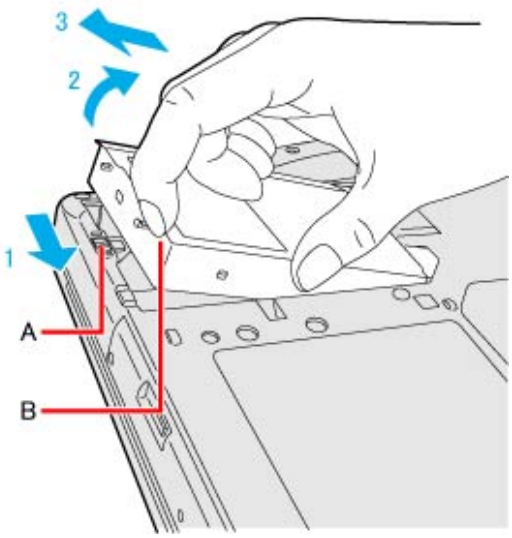
1. **Turn off the computer and disconnect the AC adaptor.**
   - Do not use sleep or hibernation.

   Perform the following steps to turn off the computer.

   1. Display “Charm”, and click - [Change PC settings] - [Update and recovery] - [Recovery].
   2. Click [Restart now] under “Advanced startup”.
   3. Click [Turn off your PC].
2. **Reverse the computer and remove the Battery Pack (** Replacing the Battery Pack**).**
3. **Insert/Remove the hard disk drive.**
   - To remove

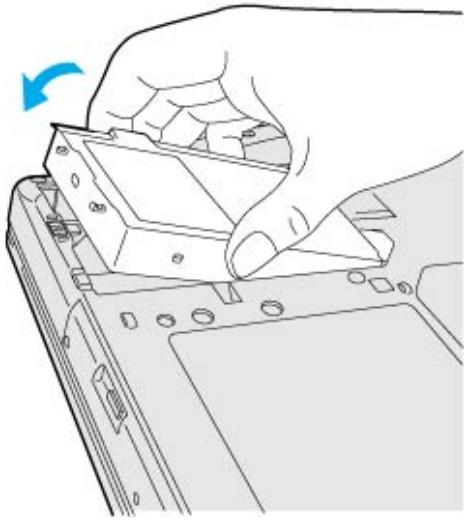
     1. Slide and hold the latch (A).
     2. Pick up (B).
     3. Pull up carefully.

        The hard disk drive is attached behind the cover.

   - To insert

     1. Attach the hard disk drive until it clicks.



CAUTION

- Confirm that the latch is surely locked so that the hard disk drive does not fall when you carry the computer.
- Be sure to attach the hard disk drive for use.

NOTE

- You can erase the data before changing the hard disk drive (Hard Disk Data Erase Utility).
- You can check that the hard disk is recognized or not in the [Information] menu of the Setup Utility. If the hard disk is not recognized, turn off the computer and insert it again.

Flash Memory Drive

<Only for model with Flash Memory Drive>

Depending on the model, a flash memory drive is mounted instead of a hard disk drive. (A hard disk drive is not mounted.) In the other chapter of this manual, replace "hard disk" and "hard disk drive" mentioned in this manual with "flash memory" and "flash memory drive". The procedure for inserting/removing the flash memory drive is same as the one of for the hard disk drive.
(Inserting/Removing the Hard Disk Drive)

NOTE

- [Hard Disk] displayed on [Information] Menu of the Setup Utility refers to the flash memory (Information Menu).
- [Hard Disk Lock] displayed on [Security] Menu of the Setup Utility restricts read/write operation for the flash memory data (Hard Disk Lock).
- The flash memory is self-diagnosed as “Hard disk” (Hardware that can be checked using the PC-Diagnostic Utility).

Setup Utility

You can make the settings of the computer's operating environment (password settings, startup drive selection, etc.)

Starting the Setup Utility

1. **Display “Charm”, and click - [Change PC settings] - [Update and recovery] - [Recovery].**
2. **Click [Restart now] under “Advanced startup”.**

   Screen messages are explained in [English (United States)].
   (Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Advanced start-up] may be displayed instead of [Advanced startup] in some language preference.)
3. **Click [Troubleshoot] - [Advanced options] - [UEFI Firmware Settings] - [Restart].**
   The computer restarts, and the Setup Utility screen appears.

NOTE

- When the fast startup is enabled, Setup Utility cannot be started by pressing ≪F2≫ or ≪Del≫ during the startup procedure.

When [Enter Password] is displayed, enter your password.

When you start the Setup Utility with Supervisor Password

- You can make the settings of all items of the Setup Utility.

When you start the Setup Utility with User Password

- Note the following:
  - In the [Advanced] and [Boot] menus, you cannot make the settings of all items.
  - In the [Security] menu, you can change only the User Password when [User Password Protection] is set to [No Protection]. You cannot delete the User Password.
  - In the [Exit] menu, you cannot make the setting of [Load Default Values] and [Boot Override].
  - ≪F9≫ (Setup Defaults) does not function.

NOTE

- Setup Utility screen is displayed on the internal LCD even when an external display is connected to the computer as the factory default. However, if the LID (display) is closed, it will come to be displayed on an external display.
- Windows 8.1 Pro 64-bit supports UEFI boot.
- The [Panasonic] boot screen may not appear when only the external display is being used. In this case, as soon as the computer starts up, press ≪F2≫ or ≪Del≫ several times and start the Setup Utility.

Information Menu

Underlined items are the factory presets.

Language	English French Japanese

Product Information

Model No. Serial No.	Computer information (cannot be changed.)

System Information

Processor Type Processor Speed Memory Size Available Memory Hard Disk	Computer information (cannot be changed.)

BIOS Information

BIOS BIOS Configuration Embedded Controller Intel(R) ME Firmware Accumulative Operating Time Access Level	Computer information (cannot be changed.)

Main Menu

Underlined items are the factory presets.

System Date • Day of the Week/Month/Day/Year. • You can use ≪Tab≫ to move the cursor.	[xxx xx/xx/xxxx]
System Time • 24-hr. style. • You can use ≪Tab≫ to move the cursor.	[xx:xx:xx]

Main Configuration

Touch Pad	Disabled <u>Enabled</u>
10-Key Mode • Select the behavior of the 10-key area of the keyboard. • When [NumLock] is selected, the 10-key area works as a number pad when NumLock LED is on. • When [Fn Key] is selected, the 10-key area works as a number pad when the ≪Fn≫ key is held, and NumLock LED is on.	<u>NumLock</u> Fn Key
Display • Not displayed when [UEFI Boot] is set to [Enabled] and [CSM Support] is set to [Auto]. • The display during the Windows start-up process. When an external display is not connected, the information appears on the internal LCD even though the [External Monitor] is selected.	<u>External Monitor</u> Internal LCD

LCD Brightness Mode • Only for model with touchscreen • When [High Brightness] is selected, the brightness of the LCD is about twice that of [Normal Brightness] mode, and power consumption is also higher. • The display during the Windows start-up process. When an external display is not connected, the information appears on the internal LCD even though the [External Monitor] is selected.	Normal Brightness High Brightness
Battery Charging Indicator	On Continuous Flashing
Power On AC	Disabled Enabled
LID Switch	Disabled Enabled
Wireless Antenna Switching • Only when the peripheral device with external antenna is connected. • If [Auto] is selected, the external antenna is used when it is connected. • If [PC (built-in)] is selected, the internal antenna is used.	PC (built-in) Auto
Environment	Normal Temperature High Temperature Auto
Current Status • Only when [Environment] is set to [Auto].	Depending on the battery status, either "Normal Temperature" or "High Temperature" is displayed.

▶ Concealed Mode Configuration • The submenu appears when this item is selected.	Enter the sub-menu.*1

*1 : The sub-menu that appears when [Concealed Mode Configuration] is selected:

Concealed Mode	Disabled Enabled
LCD Backlight • Can be changed only when [Concealed Mode] is set to [Enabled].	OFF Minimum ON
LED • Can be changed only when [Concealed Mode] is set to [Enabled]. • Except for the camera indicator and the LED of external devices.	OFF ON
Sound • Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON
Wireless Radio • Can be changed only when [Concealed Mode] is set to [Enabled].	OFF ON

Trigger Key ● Can be changed only when [Concealed Mode] is set to [Enabled]. ● Select the key combination to turn on/off the Concealed Mode. ● When [F8] is selected, pressing ≪F8≫ turns on/off the Concealed Mode. ● When [Right Alt] is selected, pressing right ≪Alt≫ turns on/off the Concealed Mode.	Fn+F8 F8 Right Alt

▶ Fan Diagnostics ● Press ≪Enter≫ to start fun test.	Enter the sub-menu.

▶ Optional Kit Configuration ● Normally do not change this setting.	Enter the sub-menu.

Advanced Menu

Underlined items are the factory presets.

▶ CPU Configuration ● The submenu appears when this item is selected.	Enter the sub-menu*2.

*2 : The sub-menu that appears when [CPU Configuration] is selected:

Execute-Disable Bit Capability ● [Enabled] indicates that this computer supports hardware-based Data Execution Prevention (DEP).	Disabled Enabled
Intel(R) Hyper-Threading Technology	Disabled Enabled
Intel(R) Virtualization Technology	Disabled Enabled
Intel(R) VT-d	Disabled Enabled
Intel(R) Trusted Execution Technology ● Can be changed only when [Intel(R) VT-d] is set to [Enabled].	Disabled Enabled
Intel(R) Turbo Boost Technology 2.0	Disabled Enabled

■ Peripheral Configuration

Optical Drive	Disabled Enabled
Serial Port	Disabled Enabled
LAN	Disabled Enabled

Power On by LAN ● Can be changed only when [LAN] is set to [Enabled]. ● Refer to Enabling the Power On by LAN function.	Deny Allow
GPS ● Only for model with GPS	Disabled Enabled
LAN (2nd) ● Only for model with 2nd LAN	Disabled Enabled
Modem ● Only for model with Modem	Disabled Enabled

▶ Wireless Configuration ● The submenu appears when this item is selected.	Enters the sub-menu*3.

*3 : The sub-menu that appears when [Wireless Configuration] is selected:

Wireless Switch	Disabled Enabled
Wireless Ready Indicator	Disabled Enabled
Wireless LAN ● Only for model with wireless LAN	Disabled Enabled
Wireless WAN ● Only for model with wireless WAN	Disabled Enabled
Bluetooth ● Only for model with Bluetooth	Disabled Enabled

Upper Ext Antenna ● Depending on the model, the following items are displayed. WWAN sub / GPS / NONE GPS / NONE	WWAN main WLAN main NONE
Lower Ext Antenna ● Depending on the model, the following items are displayed. WWAN sub / GPS / NONE GPS / NONE	WWAN sub WLAN main NONE
ExpressCard Slot ● Only for model with ExpressCard Slot	Disabled Enabled
PC Card Slot	Disabled Enabled
Legacy Card Support ● Only for model with two PC card slots	Upper Slot Lower Slot
SD Slot	Disabled Enabled

IEEE1394 Port ● Only for model IEEE1394 Port	Disabled Enabled
Smart Card ● Only for model with Smart Card slot	Disabled Enabled
USB Port	Disabled Enabled
Legacy USB Support	Disabled Enabled
Camera ● Only for model with camera.	Disabled Enabled

Boot Menu

Underlined items are the factory presets.

Boot Mode *4 : [Fast] is displayed and can be selected only when [UEFI Boot] is set to [Disabled]. ● Setting [Fast] will skip the Panasonic boot screen normally displayed immediately after the computer is turned on. The time required to display the Windows boot screen will become shorter. ● If the startup from USB devices is not possible, set [Compatible] and retry. However, setting [Compatible] will require longer time to display the Windows boot screen than setting [Normal].	Fast*4 Normal Compatible

UEFI Boot ● OS that supports UEFI boot can be run by setting this item to [Enabled]. ● If you change factory default setting, preinstalled-OS can not boot correctly. ● When [UEFI Boot] is set to [Enabled], “Press F2 for Setup / F12 for LAN” is not displayed while the computer is being started.	Disabled Enabled
CSM Support ● If you change factory default setting, preinstalled OS may not operate correctly.	Enabled Auto
▶ UEFI Priorities ● The sub-menu appears when this item is selected.	Enter the sub-menu.

■ When [UEFI Boot] is set to [Enabled]

UEFI Properties

Boot Option #1	Windows Boot Manager Recovery Partition UEFI:IP4 Intel(R) Ethernet Connection I218-LM UEFI:IP6 Intel(R) Ethernet Connection I218-LM Disabled

Boot Option #2	Windows Boot Manager Recovery Partition UEFI:IP4 Intel(R) Ethernet Connection I218-LM UEFI:IP6 Intel(R) Ethernet Connection I218-LM Disabled
Boot Option #3	Windows Boot Manager Recovery Partition UEFI:IP4 Intel(R) Ethernet Connection I218-LM UEFI:IP6 Intel(R) Ethernet Connection I218-LM Disabled
Boot Option #4	Windows Boot Manager Recovery Partition UEFI:IP4 Intel(R) Ethernet Connection I218-LM UEFI:IP6 Intel(R) Ethernet Connection I218-LM Disabled

UEFI Boot Device Control

UEFI Boot from Hard Disk	Disabled Enabled
UEFI Boot from Optical Drive	Disabled Enabled
UEFI Boot from LAN	Disabled Enabled
UEFI Boot from USB	Disabled Enabled

When [UEFI Boot] is set to [Disabled]

Boot Option Properties

Boot Option #1	USB Floppy Disk
Boot Option #2	Hard Disk
Boot Option #3	Optical Drive
Boot Option #4	LAN
Boot Option #5	USB KEY
Boot Option #6	USB Hard Disk
Boot Option #7	USB Optical Drive

<Default Order>

To change the boot order

When [UEFI Boot] is set to [Enabled]:

- [Boot Option] for [UEFI Boot Device Control] shows the boot device recognized by Firmware (BIOS).
- Boot from a device or not can be selected at [UEFI Priorities], device by device.

When [UEFI Boot] is set to [Disabled]:

The default order is [USB Floppy Disk] → [Hard Disk] → [Optical Drive] → [LAN] → [USB KEY] → [USB Hard Disk] → [USB Optical Drive].

- **Press ≪Enter≫ on the boot device you want to change and select the boot device from the following menu.**
  - When a selected boot device in the following menu already exists in either of the [Boot Option (#1 to #7)], the boot device appears at the newly selected position by switching the positions with the original boot device that existed before at the position.
  - When you select [Disabled] in the following menu, the disabled [Boot Option] is ignored and the boot device in the next [Boot Option]

operates.

Hard Disk USB Floppy Disk Optical Drive USB Hard Disk USB KEY LAN Disabled

Security Menu

Underlined items are the factory presets.

Boot Prompt Configuration

Setup Utility Prompt • Displayed only when [UEFI Boot] is set to [Disabled]. • When [Setup Utility Prompt] is set to [Disabled], the message "Press F2 for Setup / F12 for LAN" is not displayed on [Panasonic] boot screen.	Disabled Enabled
Boot Popup Menu	Disabled Enabled
Password On Boot • The shutdown when the fast startup is enabled, this function is ineffective.	Disabled Enabled
Password On Reboot	Disabled Same as Boot
Password On Resume • Can be changed only when [Password On Boot] is set to [Enabled]. • This function is effective when the computer is restarted after a shutdown (when fast startup is enabled) and when the computer resumes from hibernation, but not when it resumes from sleep.	Disabled Enabled
Boot Device On Hibernation Resume • Displayed only when [UEFI Boot] is set to [Disabled].	Try prior devices Hard Disk only
Set Supervisor Password	Enter the sub-menu.
Hard Disk Lock • Can be changed only when [Set Supervisor Password] is set.	Disabled Enabled
User Password Protection	No Protection Protected
Set User Password • Can be changed only when [Set Supervisor Password] is set.	Enter the sub-menu.

▶ Embedded Security (TPM) • Only for model that supports TPM. • Can be changed only when [Set Supervisor Password] is set. • Sub menu items: ◦ Sub-Menu Protection ◦ TPM State ◦ Pending TPM operation When is selected [Clear TPM owner], clear owner information in the TPM chip. Use for discarding and transferring this product. If you select [Clear TPM owner] when the BitLocker is effective, you may need to reinstall OS. ◦ Current TPM Status Information ◦ For information on TPM, refer to the "*Installation Manual for Trusted Platform Module (TPM)*". ▪ For the Desktop screen Double-click [Manual Selector] on the Desktop screen, and select "*Installation Manual for Trusted Platform Module (TPM)*" ▪ For the Start screen Click the [Manual Selector] tile on the Start screen, and select "*Installation Manual for Trusted Platform Module (TPM)*".	Enter the sub-menu.

▶ AMT Configuration • Only for model that supports Intel(R) AMT.	Enter the sub-menu.
▶ Secure Boot • Displayed only when [UEFI Boot] is set to [Enabled]. • The submenu appears when this item is selected. • If you change factory default setting, preinstalled-OS may not operate correctly.	Enter the sub-menu*5.

*5 : The sub-menu that appears when [Secure Boot] is selected

System Mode state	Status information (cannot be changed)
Secure Boot state	Status information (cannot be changed)
Secure Boot control • Normally do not change this setting.	Disabled Enabled
Clear Secure Boot Keys • If the default Secure Boot variables are not installed, this item changes to [Install default Secure Boot keys].	The Confirmation window appears.
Install default Secure Boot keys • This item allows you to install default Secure Boot variables (PK, KEK, db, dbx) to force the system to the user mode. • Once the default Secure Boot variables are installed, this item changes to [Clear Secure Boot keys].	The Confirmation window appears.

Exit Menu

Save Values and Reboot	To reboot the system after saving the changes.
Reboot Without Saving Changes	To reboot the system without saving the changes.

Save Options

Save Current Values	To save the changes for all Setup options.
Load Previous Values	To load previous values for all Setup options.
Load Default Values	To return the settings to the default values.

Boot Override

When [UEFI Boot] is set to [Disabled]:

(Device Information)	To select a boot device which operates only in the next booting.

When [UEFI Boot] is set to [Enabled]:

Windows Boot Manager	Only for Windows 8.1 model, and displayed only when [UEFI Boot] is set to [Enabled]. Boot from preinstalled OS
Recovery Partition	For Windows 8.1 model, displayed only when [UEFI Boot] is set to [Enabled]. For Windows 7 model, displayed only when [UEFI Boot] is set to [Disabled] (outside the “Boot Override” group). Erase your hard disk drive or restore the computer to its original factory default image.
UEFI:IP4 Intel(R) Ethernet Connection I218-LM	Only for Windows 8.1 model, and displayed only when [UEFI Boot] is set to [Enabled]. Boot from LAN device (IP4)
UEFI:IP6 Intel(R) Ethernet Connection I218-LM	Only for Windows 8.1 model, and displayed only when [UEFI Boot] is set to [Enabled]. Boot from LAN device (IP6)

▶ Diagnostic Utility	Execute Diagnostic Utility.

Hardware Diagnostics

If it appears that the hardware installed in this computer is not operating properly, you can use the PC-Diagnostic Utility to determine whether or not there is a problem.
If the utility discovers a problem in the hardware, contact Panasonic Technical Support.
Software cannot be checked using this utility.

Hardware that can be checked using the PC-Diagnostic Utility

- CPU/Systems
- RAM XXX MB
- Storage XXX GB
- Optical Drive
- Video
- Sound*1
- USB
- Modem (Only for model with Modem)
- Wired LAN
- Wireless LAN (Only for model with wireless LAN. When the wireless switch is not set to ON, it does not work.)
- Wireless WAN (Only for model with wireless WAN. When the wireless switch is not set to ON, it does not work.)
- Bluetooth (Only for model with Bluetooth. When the wireless switch is not set to ON, it does not work.)
- GPS (Only for model with GPS)
- IEEE 1394 (Only for model with IEEE 1394 port)
- PC Card
- SD
- Smart Card (Only for model with Smart Card slot)
- Serial Port
- Keyboard
- Touch Pad

*1 : When the PC-Diagnostics Utility is running a loud beep will sound, so do not use headphones as this time.

NOTE

- **When the video diagnostic check is running, the display may be distorted. This is not malfunction.**

Regarding the PC-Diagnostic Utility

NOTE

- Only for the hard disk, keyboard and touch pad, you can select standard diagnostic check or extended diagnostic check. When the PC-Diagnostic Utility starts up, it will run the standard diagnostic check.

- We recommend that you use the touch pad for operations. When not using the touch pad, you can operate using the internal keyboard instead. Do not use the touchscreen.

Operations	Touch pad operations	Internal keyboard operations

Operations	Touch pad operations	Internal keyboard operations
Select icon	Place the cursor above the icon	Press ≪Space≫, and then press ≪→≫≪←≫≪↑≫≪↓≫ ((close) cannot be selected)
Click the icon	Tap or click (right click cannot be used)	Press ≪Space≫ above the icon
Complete the PC-Diagnostics Utility and then restart the computer	Click (close)	Press ≪Ctrl≫ + ≪Alt≫ + ≪Del≫

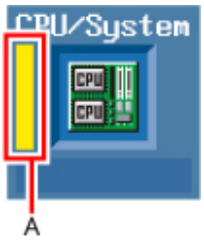
- If the touch pad does not operate properly, press≪Ctrl≫ + ≪Alt≫ + ≪Del≫ to restart the computer, or press the power switch to turn the power off, and then restart the PC-Diagnostic Utility.

Running the Diagnostic Check

Run this utility using the default settings in the Setup Utility.
If the Setup Utility or other settings will not allow hardware to be executed, the hardware icon will be displayed in gray.

1. **Connect the AC adaptor, and turn on the wireless switch.**
   During the diagnostic check, do not remove the AC adaptor, or attach any peripheral devices.
2. **Follow the steps below.**
   1. Display “Charm”, and click - [Change PC settings] - [Update and recovery] - [Recovery].
   2. Click [Restart now] under “Advanced startup”*2.
   3. Click [Troubleshoot] - [Advanced options] - [UEFI Firmware Settings] - [Restart].
      The computer restarts, and the Setup Utility screen appears.
   - If the password is requested, enter the Supervisor Password.
   - If you are using the computer after changing the settings from the status at the time of purchase, we recommend that you make a note of the settings that are changed.

   *2 : Screen messages are explained in [English (United States)].
   (Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Advanced start-up] may be displayed instead of [Advanced startup] in some language preference.)
3. **Press ≪F9≫.**
   At the confirmation message, select [Yes] and press ≪Enter≫.
4. **Press ≪F10≫.**
   At the confirmation message, select [Yes] and press ≪Enter≫.
   The computer will restart.
5. **Press ≪F2≫ to display Setup Utility.**
6. **Select the [Exit] menu, then select [Diagnostic Utility].**
   If [UEFI Boot] in the Setup Utility is set to [Enabled], the computer restarts automatically when you select [Diagnostic Utility], and then the PC-Diagnostic Utility starts.
   When the PC-Diagnostic Utility starts up, it will automatically begin the diagnostic check for all hardware components.
   - If the password is requested, enter the password.
   - The touch pad and the internal keyboard may not be used when each hardware checking is running. While checking, blue and yellow colors are displayed on the left side of the hardware icon (A).

   - By clicking the icon, you can execute the following operations:
     - : Start the diagnostic check from the beginning
     - : Stop the diagnostic check (You cannot restart the check partway through by clicking)

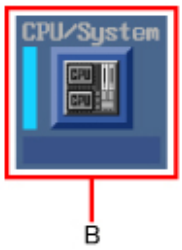
- : Display help (click the screen or press ≪Space≫ to return to the original diagnostic check screen)

- You can check the status of the diagnostic check by the display color on the left side of the hardware icon (A).
  - Aqua: Not running diagnostic check
  - Alternating blue and yellow: Currently running diagnostic check. The interval of the alternating colors differs depending on the type of diagnostic check currently running.
    During memory diagnostic check, the display may freeze for a long period of time. Wait until the process is complete.
  - Green: No problems discovered
  - Red: Problems discovered

NOTE

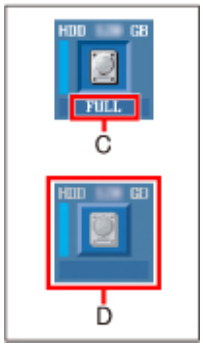
- **Using the following procedure, you can run a diagnostic check on a specified hardware component, or run an extended diagnostic check on the memory or the hard disk (The extended diagnostic check is only for the memory and the hard disk). The extended diagnostic check is more detailed, and so requires a longer period of time to run.**

  1. Click to stop the diagnostic check.
  2. Click the icon for the hardware that is not to be checked, so that the icon is displayed in gray (B).



When running a check on the memory or the hard disk, clicking the icon once will turn on the extended diagnostic check ("FULL" (C) will be displayed below the icon); click again, and the icon will be displayed in gray (D).

e.g. hard disk



  3. Click to start the diagnostic check.

7. **When all the hardware has been checked, confirm the diagnostic check results.**
   If the display is red and the message "Check Result TEST FAILED" is displayed, you can assume that there is a problem with the computer's hardware. Confirm which hardware component is displayed as red, and contact Panasonic Technical Support.
   If the display is green and the message "Check Result TEST PASSED" is displayed, the computer's hardware is operating normally. Continue using the computer as it is. If the computer still does not operate properly, reinstall the software (*OPERATING INSTRUCTIONS* "Installing Software").

NOTE

- If you run a memory diagnostic check after installing a new RAM module (sold separately) and the message "Check Result TEST FAILED" is displayed:
  Remove the additional RAM module and run the diagnostic check again. If the message "Check Result TEST FAILED" is still displayed, you can assume that there is a problem with the internal RAM module.

8. **After the diagnostic check is complete, click (close), or press ≪Ctrl≫ + ≪Alt≫ + ≪Del≫ to restart the computer.**

When the Icon Becomes Gray and the Corresponding Device Cannot Be Checked

- **The device is disabled in the Setup Utility:**
  Set the device to [Enabled] in the Setup Utility.
- **The USB icon is gray:**
  The USB port is disabled.
  Set [USB Port] to [Enabled] in the [Main] menu of the Setup Utility.

Hard Disk Backup/Restore Function

Panasonic Corporation will bear no responsibility for any damage suffered (including loss of data) as a result of the use of this function.

Creating a Backup of the Hard Disk Data

You can create a backup of the hard disk data, which can be used to recover from hardware failure.
This function creates a backup of the recent state of the hard disk. To return the factory default, use a recovery disc.

To create a backup of the hard disk to another storage media (e.g., external hard disk).
Connect the storage media, and follow the steps below.

1. **Open the Control Panel, and then click [System and Security] - [File History].**
   To open the Control Panel, perform either of the following procedures.
   - For the Desktop screen
     1. Right-click at the bottom left corner of the Desktop screen.
     2. Click [Control Panel].
   - For the Start screen
     1. Click on the Start screen.

        <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top.
     2. Click [Control Panel] under "Windows System".
2. **Click [System Image Backup].**

   Follow the on-screen instructions.

NOTE

- Connect the AC adaptor and do not remove it until backup is complete.

Restoring the Hard Disk Data

1. **Click [Charm] - - [Change PC settings] - [Update and recovery] - [Recovery].**
2. **Click [Restart now] under “Advanced startup”[*1].**
3. **Click [Troubleshoot] - [Advanced options].**
4. **Click [System Image Recovery].**

   Follow the on-screen instructions.

*1 : Screen messages are explained in [English (United States)].
(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Advanced start-up] may be displayed instead of [Advanced startup] in some language preference.)

Recovery Disc Creation Utility

You can make a recovery disc for preinstalled software.
The recovery disc returns the hard disk to the factory default. To create a backup of the recent state of the hard disk, refer to Hard Disk Backup/Restore Function.

Preparation

- Blank discs (About usable types of discs and required numbers of discs, refer to the screen.)
- Connect the AC adaptor and do not remove it until the operation is complete.
- Close all applications except for this utility.
- Remove all peripherals CD/DVD.
- Turn off the wireless function.

CAUTION

- **USB memory device can also be used as a recovery disc.**
- **Do not perform the following operations until creating the recovery disc is complete.**
  - Shut down or restart Windows.
  - Enter sleep or hibernation.
  - Remove CD/DVD drive.
- **If you interrupted creating a recovery disc, a message of failure may appear in step 9 screen below. In this case, create a new recovery disc again.**

1. **Restart the computer, and sign in to Windows as an administrator.**
2. **Set a disc into the CD/DVD drive.**
3. **Click on the Start screen, and then click [Recovery Disc Creation Utility] under “Panasonic”.**

   If [User Account Control] is displayed, click [Yes].
4. **Click [Next].**
5. **Confirm on-screen information ([Select OS Image] and [Number of discs required]).**
   Click [Next].
6. **Select the disc type.**
7. **Click [Next].**
   Select the writing speed, and click [OK].
8. **When [Recovery disc #1 complete.] is displayed, remove the disc and write contents of the disc on the label side.**
   Do not use sharp objects that may leave a mark.
9. **Click [OK].**
   Following on-screen instructions, remove or replace the discs.
   <Only for Windows 7 downgrade model>
   The recovery disc of both Windows 7 and Windows 8.1 is created. Following on-screen instructions.
10. **Click [OK] on [All recovery discs complete.] screen.**

NOTE

- **The disc created with this utility is only for this computer. You cannot use for others.**
- **Additional applications cannot be recovered even if you use a recovery disc created with this utility.**
- **Once the recovery disc(s) have been created, you cannot create other recovery discs using this utility. If, however, the hard disc recovery is executed or OS is reinstalled from the created recovery disc, you can create a recovery disc again.**
- **If you fail to create a recovery disc or an error message appears, try either of the following procedures.**
  - Insert the disc correctly.
  - Check the disc condition.
  - Restart the computer and try to create a recovery disc again.
  - Contact Panasonic Technical Support.

Hard Disk Data Erase Utility

When disposing the computer or transferring the ownership, erase all hard disk data in order to avoid data leakage. Even if you erase the data or initialize the hard disk using normal Windows commands, the data can be read with some special software. Use the hard disk data erase utility to erase the data completely.
Note that transferring of the ownership without uninstalling the commercial software will be a violation of the software's license agreement.

Hard Disk Data Erase Utility

The hard disk data erase utility erases data using an overwriting method, but there is a possibility that due to malfunctions or other operational errors, data may not be completely erased. There are also specialized devices that may be able to read data that has been erased using this method. If you need to erase highly confidential data, we recommend that you contact a company that specializes in this process. Panasonic Corporation will bear no responsibility for losses or damages suffered as a result of the use of this utility.

NOTE

- Even if hard disk data erase is performed, the number of times of DVD's region code setting will not be reset.
- This utility cannot erase data for specific partitions. However, the entire hard disk data including the data of the partition with recovery tools will be erased.

Preparation

- Prepare the following items:
  - <For CF-19> USB DVD drive (optional) (refer to recent catalogs and other sources for information about the products available)
  - Recovery Disc
- Remove all peripherals. (except for the DVD drive)
- Connect the AC adaptor and do not remove it until hard disk data erase is complete.

1. **<For CF-53 series> Turn on the computer.**
   <For CF-19 series> Connect the CD/DVD drive to the USB port.
2. **Start the Setup Utility.**
3. **Write down all of the contents of the Setup Utility and press ≪F9≫.**At the confirmation message, select [Yes] and press ≪Enter≫.
4. **Check the [UEFI Boot] setting of the Setup Utility.**
   [UEFI Boot] should be set to as follows.
   When the recovery disc for Windows 8.1 is used: [Enabled]
   When the recovery disc for Windows 7 is used: [Disabled]
5. **Set the Recovery Disc into the DVD drive.**
6. **Press ≪F10≫.**
   At the confirmation message, select [Yes] and press ≪Enter≫.
   The computer will restart.
7. **Press ≪F2≫ or ≪Del≫ while [Panasonic] boot screen is displayed.**
   The Setup Utility starts up.
   If the password is requested, enter the Supervisor Password.
8. **Select the [Exit] menu, then select the DVD drive (indicated as [UEFI: xxxx DVD]) in "Boot Override".**
9. **Press ≪Enter≫.**
   The computer will restart.
10. **Click [Erase the all data on the whole Disk for security] and click [Next].**
11. **At the confirmation message, click [YES].**
12. **Click [Continue].**
13. **Click [Continue] again.**
14. **Click [YES].**
    Erasing the hard disk data starts.
15. **After erasing is completed, remove the Recovery Disc and click [OK].**

Technical Information

Network Connections and Communications Software

Close the communications software before using the power saving function.

- If the power saving function (sleep or hibernation) is activated while communications software is used, the network connection may be interrupted, or the performance may be adversely affected. In this case, restart the computer.
- In a network environment, set [Never] for [Put the computer to sleep] and [Hibernate after].

About Windows-related files

Files to support the Operating System are contained in the following folders:

c:\windows\support\{language}\logging

Refresh your computer

If operations on the unit become unstable, we recommend refreshing Windows. This involves reinstalling the operating system while retaining personal files and settings (Personalization).

1. **Display "Charm," and click** **- [Change PC settings] - [Update and recovery] - [Recovery].**
2. **Click [Get Started] under “Refresh your PC without affecting your files.”**
3. **Click [Next].**
4. **Click [Refresh] in the “Ready to refresh your PC” screen.**
   Follow the on-screen instructions.

NOTE

- **The main items that are retained are as follows.**
  - User accounts
  - Applications downloaded from Windows Store
  - Wireless network settings
  - Wallpapers
  - Documents, photos, music, videos, etc.
- **A list of applications that could not be retained will be saved to the desktop.**

Latest Information on the Operation of This Computer

There is no information now.

About the Software License

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About zlib

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.8, April 28th, 2013

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*/

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A "png_get_copyright" function is available, for convenient use in "about" boxes and the like:
```
printf("%s",png_get_copyright(NULL));
```

Also, the PNG logo (in PNG format, of course) is supplied in the files "pngbar.png" and "pngbar.jpg (88x31) and "pngnow.png" (98x31).

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Glenn Randers-Pehrson
glennrp at users.sourceforge.net
July 18, 2013

Error Message

Follow the instructions below when an error message appears. If the problem persists or if the error message is not shown here, contact Panasonic Technical Support.

Error Message	Solution
Bad System CMOS	An error has occurred in the memory of system settings. This occurs when the memory content is changed by an unexpected program operation, etc. ● Start the Setup Utility and return the settings to the default values, and then change the settings as necessary. ● If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
System CMOS Checksum Error	
Invalid Year. System date restored to 01/01/20XX	The date and time settings are not correct. ● Start the Setup Utility and set the correct date and time. ● If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
Press F2 or DEL to enter setup	● Write down the error details and press ≪F2≫ or ≪Del≫ to start the Setup Utility. Change the settings if necessary.

Troubleshooting (Advanced)

Refer to the following instructions when a problem occurs. If the remedies indicated in the chart do not solve the problem, contact Panasonic Technical Support.
For a software problem, refer to the instruction manual of the software.

- Refer to Checking the Computer's Usage Status.

Shut Down/Sleep/Hibernation/Resume

Cannot turn off the computer.	• Remove all peripherals. • It may take 1 or 2 minutes to turn off the computer.

Sleep or Hibernation

Cannot enter sleep or hibernation.	• Remove USB devices temporarily. If the problem persists, restart the computer. • It may take 1 or 2 minutes to enter sleep or hibernation. • The computer may not enter sleep when the computer is communicating via modem. • The computer does not enter sleep or hibernation immediately after resuming. Wait approximately 1 minute.
Cannot enter sleep or hibernation automatically.	• Disconnect peripheral devices. • If you connect to a network using wireless LAN function, select the profile and connect to the access point (Setting the wireless LAN access point). • If you do not use wireless LAN function, turn off wireless LAN function (Turning on/off the wireless LAN communication). • Make sure that you are not using any software that regularly accesses the hard disk.
The computer does not resume.	• If you press and hold the power switch for 4 seconds or longer, the power will be turned off forcibly and the computer will not resume. In this case, all unsaved data will be lost. • You disconnected the AC adaptor and the battery pack while the computer was in sleep. If the computer's power supply is disconnected in sleep, unsaved data will be lost and the computer will not resume. • The battery is exhausted. Sleep or hibernation consume some power.

Display

The screen does not become bright even if pressing ≪Fn≫ + ≪F2≫.	• The brightness is set low to avoid malfunction where surrounding temperature is high. For proper operating temperature *OPERATING INSTRUCTIONS* “Specifications”
There are red, green, or blue dots on the screen, or there is unevenness in colors and brightness on the screen.	The following are not malfunctions. • Although advanced high-precision technologies are used in the production of color LCD screens, 0.002% or less of the picture elements may be dark or remain constantly lit (i.e., more than 99.998% of elements function properly). • Due to the natural characteristics of LCD screens, you may notice unevenness in colors and brightness depending on your angle of view. Hues may also vary by product.

Sound

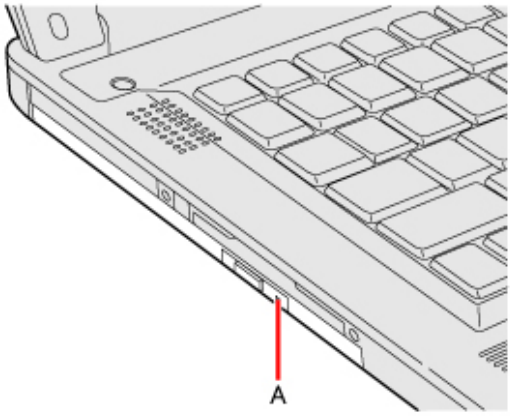
No sound.	● Press ≪Fn≫ + ≪F4≫ or ≪Fn≫ + ≪F6≫ to cancel mute. ● Press ≪Fn≫ + ≪F8≫ to turn off the concealed mode. ● Restart the computer. ● Beeping sounds are not emitted by this device.
Distorted sound.	● Performing ≪Fn≫ key combinations sometimes causes sound distortion. Stop and restart playback.
Cannot change the volume by pressing ≪Fn≫ + ≪F5≫ or ≪Fn≫ + ≪F6≫.	● Activate the Windows sound function. When it is not active, the volume does not change even if is displayed.
Can not record with microphone	● Use a condenser microphone. ● Some settings may have to be made depending on the microphone. When using a monaural microphone with a 2-terminal plug: 1. Display the Control Panel, and then click [Hardware and Sound] - [Sound] - [Recording] - [Microphone] - [Properties], and then add a check mark for [Mono Microphone] in [Enhancements]. To open the Control Panel, perform either of the following procedures. ● For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Control Panel]. ● For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Click [Control Panel] under "Windows System". When recording in stereo using a stereo microphone: 1. Display the Control Panel, and then click [Hardware and Sound] - [Sound] - [Recording] - [Microphone] - [Properties], and then remove a check mark for [Mono Microphone] in [Enhancements]. To open the Control Panel, perform either of the following procedures. ● For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Control Panel]. ● For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Click [Control Panel] under "Windows System".
When logging on (e.g., resuming the computer), audio is distorted.	● Perform the following steps to change the audio settings to prevent audio output. 1. Right-click the desktop and click [Personalize] - [Sounds]. 2. Remove the check mark from [Play Windows Startup sound].

Keyboard

Only numbers can be input.	● When the indicator is on, the keyboard is in ten-key mode. Press ≪NumLk≫ to cancel.

Only capital letters can be input.	● When the indicator A is on, the keyboard is in Caps Lock mode. Press ≪Caps Lock≫ to cancel.
Cannot enter special characters (ß, à, ç, etc.) and symbols.	● Use the character map. 1. Display “Charm” - . 2. Input “Character”.

Disc Operation

The CD/DVD drive does not work normally.	● Set [Optical Drive] to [Enabled] in the [Advanced] menu of the Setup Utility. ● Clean the lens (CD/DVD drive handling care). ● Check the disc condition (Disc handling care).
Cannot play back TV programs recorded on a commercial DVD recorder.	● Finalize the disc on the DVD recorder when the program was recorded in video mode on DVD-R/RW or in VR mode on DVD-RW.
A blue background appears on the screen when playing an MPEG image.	● You opened the CD/DVD drive or removed the MPEG disc while it was operating. Re-insert the MPEG disc and close the CD/DVD drive.
The CD/DVD drive vibrates excessively or makes noise.	● Insert the disc correctly. ● Check the disc condition (Disc handling care). ● When writing to CD-R/RW using Roxio Creator LJB, you can minimize vibration while writing by using the writing speed at [10x] or less.
Cannot eject a disc.	● Turn on the computer. ● To remove a disc when the computer is powered off, insert a pin of 1.3 {±0.05} mm in diameter into the emergency hole (A). (When the diameter of the pin is smaller than this, insert the pin slightly downward.) Pushing it completely to the end will free the tray so that it can be pulled out.  ● If a disc with fingerprints or other dirt is used, you may not be able to remove it. Use a clean disc. (To clean discs)
The disc tray does not close.	● Do not touch the eject button when closing the tray.
Other disc operation problems.	● Use another drive or media.

Network

Cannot connect to a network.	● Set the device ([LAN] / [Modem] / [Wireless LAN] / [Bluetooth] / [Wireless WAN]) to [Enabled] in the [Advanced] menu of the Setup Utility.
Cannot check the computer's MAC address.	● Follow the steps below. 1. Perform either of the following procedures. ● For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Command Prompt]. ● For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Click [Command Prompt] under “Windows System”. 2. Input "getmac /fo list /v", and press ≪Enter≫. ● Insert a space between "fo" and "list", and between "list" and "/v". 3. Wireless LAN's MAC address: Make a note of the 12-digit string of alphanumeric displayed on "Physical Address" line of "Wi-Fi". Wired LAN's MAC address: Make a note of the 12-digit string of alphanumeric displayed on "Physical Address" line of "Ethernet". 4. Input "exit", and press ≪Enter≫.

Wireless Communication (only for model with wireless LAN/Bluetooth/wireless WAN)

Cannot connect to a network.	● Slide the wireless switch to turn on the wireless devices. ● Confirm the airplane mode is Off. To turn off the airplane mode, follow the steps below. 1. Display “Charm”, and click - [Change PC Settings] - [Network] - [Airplane mode][*1]. 2. Click [Airplane mode][*1] to [Off], and then; set [Wi-Fi][*1] to [On] (for wireless LAN). set [Mobile broadband] to [On] (for wireless WAN). set [GPS] to [On] (for wireless WAN). set [Bluetooth] to [On] (for Bluetooth). set [GPS/GNSS] to [On] (for GPS). ● Restart the computer.
Access point is not detected.	● Shorten the distance between the computer and the access point, and try the detection again. ● Confirm the following settings: ● [Wireless LAN] in the [Advanced] menu of the Setup Utility Confirm that [Wireless LAN] of [Wireless Configuration] is set to [Enabled]. ● Wireless Switch Slide the wireless switch to ON. ● Airplane mode Confirm that Wireless LAN (Wi-Fi) is ON. ● This computer uses channels 1 through 11[*2] when using IEEE802.11b/g/n. Check the channel being used by the access point.

<Only for model with wireless WAN> Cannot communicate.	● Confirm that wireless switch is ON. ● Confirm that [Wireless WAN] of [Wireless Configuration] is set to [Enabled] in the [Advanced] menu of the Setup Utility. ● Display “Charm” and click - [Change PC Settings] - [Network] - [Airplane mode][*1]. Then confirm that [Mobile broadband] is [On]. ● Confirm that the SIM card is inserted correctly. If communication is not established after proceeding with the above remedies, the wireless WAN device may not be correctly recognized. Restart the computer.
<Only for model with wireless WAN (Sierra Wireless™ EM7355/EM7305/EM8805)> <When using the GPS function on the model with the built-in Wireless WAN modem> COM port number setting is requested when trying to use the GPS function.	● To use a COM port, follow the steps below. 1. Uninstall “Sierra Wireless QMI Driver Package”. 1. Open the Control Panel, and then click [Program] - [Uninstall a program]. To open the Control Panel, perform either of the following procedures. ● For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Control Panel]. ● For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Click [Control Panel] under "Windows System". 2. Click [Sierra Wireless Mobile Bloadband Driver Package], and then click [Uninstall]. 2. Restart the computer. 3. Press ≪ ≫ + ≪R≫, input "C:\util\drivers\wwan_xx\Port_install.bat" in [Open:], and press ≪Enter≫. (“xx” will vary depending on the model.) 4. Confirm that “Sierra Wireless NMEA Port(COMx)” is displayed, open the device manager, and then click [Ports(COM & LPT)]. Specify “COMx” as the COM port number.

*1 : Screen messages are explained in [English (United States)].
(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode]/[WiFi] may be displayed instead of [Airplane mode]/[Wi-Fi] in some language preference.)

*2 : In the case of wireless communications, the frequency band being used can be divided into segments, so that different communications can be conducted on each band segment. A "Channel" refers to the individual frequency bandwidth divisions.

Connecting Peripherals

An error occurs while installing the driver.	● When you install a driver of card or peripheral device, make sure that the driver is compatible with the operating system. If it is not compatible, malfunction may occur. For information about the driver, contact the manufacturer of the peripheral device.

A peripheral device does not work.	• Install the driver. • Contact the manufacturer of the device. • When operation resumes from sleep or hibernation, devices such as a mouse, modem, PC card and ExpressCard may not function properly. In this case, restart the computer or reinitialize the device. • When or is displayed in the Device Manager, remove and insert the device. If the problem persists, restart the computer. • When you set [USB Port] to [Disabled] in the [Advanced] menu of the Setup Utility, USB ports of port replicator are also disabled. • The computer may not recognize the connection/removal of some devices, or may not operate normally with some devices. 1. Perform either of the following procedures. • For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Device Manager]. • For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Right-click [This PC] under “Windows System”. 3. Click [Properties] - [Device Manager]. 2. Select the device, and remove the check mark for [Allow the computer to turn off this device to save power] in [Power Management]. (This item may be unavailable for some types of devices.) • In the case that a USB device does not work, remove the USB device and connect it again or connect the USB device to another port.
The connected mouse does not work.	• Check the mouse connection. • Install the driver compatible with the connected mouse. If the mouse does not work even after installing the driver, set [Touch Pad] to [Disabled] in the [Main] menu of the Setup Utility.
USB floppy disk drive does not work as a boot drive.	• Connect the floppy disk drive directly to a USB port of the computer. Do not connect it via a USB hub or USB connector of the port replicator. If you have connected to a USB port on the computer, try connecting it to one of the other USB ports. • Set [USB Port] and [Legacy USB Support] to [Enabled] in the [Advanced] menu of the Setup Utility. • Turn off the computer and connect the USB floppy disk drive, and then restart the computer.
The RAM module is not recognized.	• Insert the RAM module correctly. • Use the compatible RAM module (RAM Module). • Check the [Information] menu in the Setup Utility. If the RAM module is not recognized, turn off the computer and reinsert the RAM module.

You do not know the address map for IRQ, I/O port address, etc.	● You can check with the following procedure. 1. Perform either of the following procedures. ● For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Device Manager]. ● For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Right-click [This PC] under “Windows System”. 3. Click [Properties] - [Device Manager]. 2. Click [View] - [Resources by type].
The device connected to the serial port does not work.	● Check the connection. ● The device driver may not work. Refer to the instruction manual of the device. ● Do not connect 2 mouse devices simultaneously. ● Set [Touch Pad] to [Disabled] in the [Main] menu of the Setup Utility.
<Only for model with GPS> GPS does not work.	● Turn on the wireless switch. ● You can check the GPS status in the Dashboard for Panasonic PC. Launch [GPS Viewer] (GPS Viewer).
LAN transmission speed slows down noticeably. Poor performance during data transmission via an ExpressCard (e.g., distorted video image when writing to a DV camera using an IEEE1394 ExpressCard). <Only for model with wireless LAN> Wireless LAN connection is cut.	● Change the power plan to [High performance] (Using Power Plan Extension Utility).

Touch Pad / Touchscreen (only for model with touchscreen)

The pointer does not work.	● Connect the external mouse correctly. ● Restart the computer using the keyboard. ● If the computer does not respond to keyboard commands, read "No response".
Cannot input using the touch pad.	● Set [Touch Pad] to [Enabled] in the [Main] menu of the Setup Utility. ● The touch pad may be disabled by some mouse drivers. Check your mouse's operating instructions.
<Only for model with touchscreen> Cannot point the correct position using the included stylus pen.	● Perform the "Calibrating the Screen".
Cannot use scroll function of touch pad on Internet Explorer.	● Use Touchscreen. ● Move the mouse cursor to outside of Internet Explorer, and return to Internet Explorer.

PC Card / ExpressCard (only for model with ExpressCard slot)

A card does not work.	• Insert the card correctly. • The card does not conform to the card standard. • Restart the computer after installing a driver (of card or other device). • Set [PC Card Slot] and [ExpressCard Slot] to [Enabled] in the [Advanced] menu of the Setup Utility. • The port settings are not correct. • Read the instruction manual of the card or contact the manufacturer of the card. • Remove the card and insert it again (Inserting/Removing the Card). • The driver is not compatible with the operating system.

SD Memory Card

Cannot use an SD Memory Card.	• Set [SD Slot] to [Enabled] in the [Advanced] menu of the Setup Utility. • This computer may not support the maximum speed some types of SD/SDHC/SDXC Memory Cards guarantee.

Smart Card (only for model with Smart Card slot)

Cannot use a Smart Card.	• Insert the Smart Card correctly. • Set [Smart Card] to [Enabled] in the [Advanced] menu of the Setup Utility. • To use a Smart Card, you need a specified software and driver.

Fingerprint Reader (only for model with Fingerprint Reader)

The sensor does not enroll or authenticate my fingerprint.	• If pop-up or other messages appear on the desktop screen, fingerprint entry may be inhibited temporarily. In such cases, click outside of the Fingerprint Authentication window, then click again back inside it. • Slide your finger correctly. For further information about enrollment and authentication, refer to Fingerprint Reader and [Help]. 1. On the Start screen, click at the lower left. 2. In "DDS", click [EVE FA Standalone Help]. • The sensor enrolls or authenticates no fingerprint, or performs authentication poorly, despite the correct way of finger sliding when your finger is in any of the conditions stated below: ◦ Rough skin, or injured finger (with a cut or a skin inflammation) ◦ Extremely dry ◦ Soiled with mud or oil ◦ Fingerprint has been worn and has faded ◦ Wet with water or sweat <You can improve enrolling and authentication sensitivity by taking the following steps when any of the conditions described above exists> ◦ Wash your hands or wipe them dry. ◦ Use a different finger for registration or authentication. ◦ Treat your finger with a hand cream when it is rough skin or dry. • Clean the fingerprint sensor. For further information, refer to Fingerprint Sensor Handling. • The fingerprint sensor may be malfunctioning when it continues to perform poorly after the steps described above have been performed. Contact Panasonic Technical Support.

User cannot use enrolled finger. (e.g. injury)	● If none of your enrolled fingers can be used, follow this procedure: 1. Sign in to Windows. You can always access the computer by using your Windows sign in password. 2. Update the enrolled fingerprints. Click in the notification area at the lower right of the desktop screen, and click and then click [Fingerprint Enrollment Tool]. ● Click [Password], and you can start enrollment using the windows password.
Removing data.	● If you need to remove all registered data, uninstall EVE FA Standalone for Panasonic. ● When the message "Do you delete all the data such as registered fingerprint information?" is displayed, select [Yes]. (All fingerprint data and ID manager data are deleted.) ● After uninstallation, reinstall EVE FA Standalone for Panasonic.

User Switching

Some applications do not work properly.	● When switching to a different user without logging off, some applications do not work properly. In this case, log off the other users.

Others

No response.	● Open Task Manager and close the software application. To open the Task Manger, proceed as follows ● For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Task Manager]. ● For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Right-click [Task Manager] under “Windows System”. ● An input screen (e.g., password input screen at startup) may be hidden behind another window. Use ≪Alt≫ + ≪Tab≫ to check. ● Shut down by pressing and holding the power switch for 4 seconds or longer, and turn on the computer and open the application again. ● If Windows runs correctly, but the application software does not start, uninstall the failing application software, then reinstall it. To uninstall, perform the procedure below. 1. Perform either of the following procedures. ● For the Desktop screen 1. Right-click at the bottom left corner of the Desktop screen. 2. Click [Control Panel]. ● For the Start screen 1. Click on the Start screen. <Only for model with touchscreen> Alternatively, flick from the middle of the screen to the top. 2. Click [Control Panel] under "Windows System". 2. Click [Program] - [Uninstall a program].

A motion image file cannot be played using Windows® Media Player and the message [Codec required] appears.	Some motion image files require a Codec that is not installed as standard. In this case, connect to the Internet and try playback of the file again. The Codec may automatically be downloaded so you may be able to play it.
Cannot obtain data from the GPS.	• Set airplane mode to OFF (set wireless switch to ON). • Check the airplane mode setting.

Checking the Computer's Usage Status

You can check the computer's usage status in the PC Information Viewer. You may need this information when calling Panasonic Technical Support for advice.

NOTE

- **This computer periodically records the management information of the hard disk etc. The maximum data volume for each record is 1024 bytes. This information is only used for estimating the cause when the hard disk goes down by any possibility. They are never sent to outside via network nor used for any other purpose except for the purpose described the above.**
  To disable the function, add the check mark for [Disable the automatic save function for management information history] in [Hard Disk Status] of PC Information Viewer, and click [OK].
  - A standard user needs to enter an administrator password.
- **Depending on your network environment, it may take 1 minute to start up Information Viewer.**

Running PC Information Viewer

1. Start Dashboard for Panasonic PC (Dashboard for Panasonic PC), click [Basic], and then click [Launch] in the [PC Information Viewer] tile.
2. Select the item to display the detailed information.

NOTE

- **You can start up the PC Information Viewer using the following steps.**
  1. Click on the Start screen, and then click [PC Information Viewer] under “Panasonic”.

To save the information as a text file

1. **Run the PC Information Viewer and display the information you wish to save.**
2. **Click [Save].**
   - To save the item that is displayed
     Click [Save only the information displayed] and click [OK]. Some of the hidden information on the screen, which cannot be shown without scrolling the screen, will be saved, too.
   - To save all items
     Click [Save all the information] and click [OK].
     If automatic saving of the management information record has not been disabled, the records already recorded are also saved.
3. **Select the folder to save information, input the file name, and then click [Save].**

To save a copy of the screen as an image file

1. **Display the screen you want to save.**
2. **Press ≪ ≫ + ≪PrtSc≫.**

   The screen image is saved in [Pictures] - [Screenshots] folder.